



# *The* **CRUSHED STONE JOURNAL**

## **In This Issue**

■  
**Annual Convention in Cincinnati  
Next January**


■  
**Durability of Limestone or Dolomite  
Concrete in Water-Exposed Structures**

■  
**The Highway of Tomorrow**

■  
**Basing Point and Freight-Zone Price  
Systems Under the Anti-Trust Laws**

■  
**What is the Future of Private Enterprise?**

**July-August • 1937**



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**NATIONAL CRUSHED STONE ASSOCIATION**

**Technical Publications**  
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**National Crushed Stone Association, Inc.**



**BULLETIN No. 1**

The Bulking of Sand and Its Effect on Concrete

**BULLETIN No. 2**

Low Cost Improvement of Earth Roads with Crushed Stone

**BULLETIN No. 3**

The Water-Ratio Specification for Concrete and Its Limitations

**BULLETIN No. 4**

"Retreading" Our Highways

**BULLETIN No. 5**

Reprint of "Comparative Tests of Crushed Stone and Gravel Concrete in New Jersey"  
with Discussion

**BULLETIN No. 6.**

The Bituminous Macadam Pavement

**BULLETIN No. 7**

Investigations in the Proportioning of Concrete for Highways

**BULLETIN No. 8**

The Effect of Transportation Methods and Costs on the Crushed Stone, Sand and Gravel,  
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Stone Sand

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Industry (\$2.00 per copy)

# The Crushed Stone Journal

Official Publication of the NATIONAL CRUSHED STONE ASSOCIATION

J. R. BOYD, Editor

NATIONAL CRUSHED  
STONE ASSOCIATION



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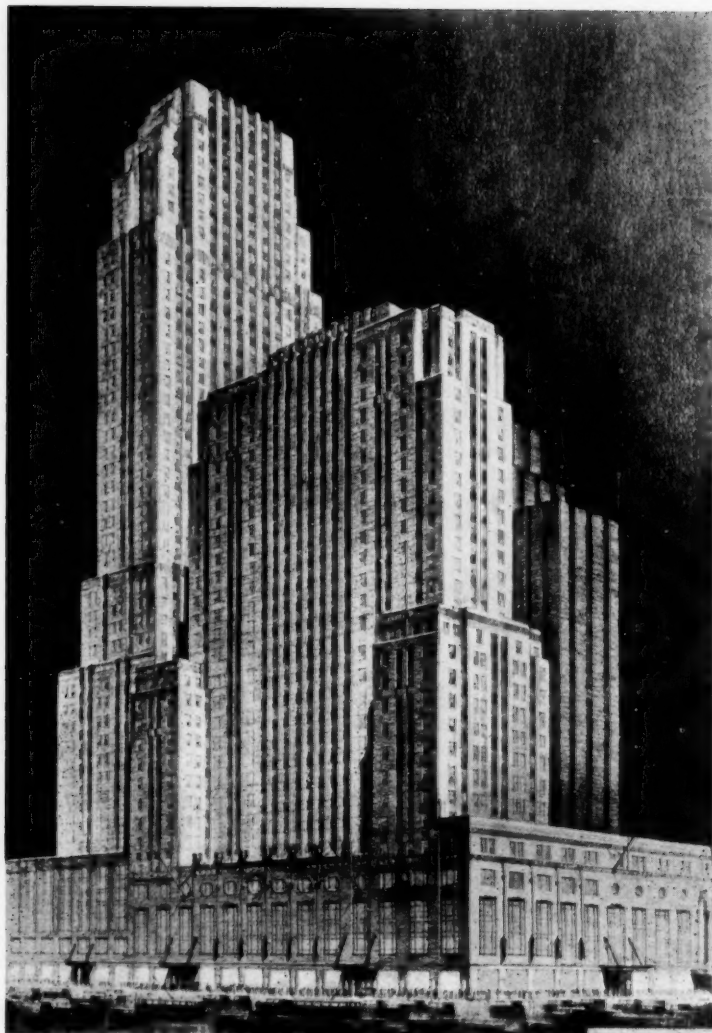
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## Contents

	Page
Annual Convention Will Return To Cincinnati Next January - - -	3
The Durability of Limestone or Dolomite Concrete in Water-Exposed Structures —A. T. Goldbeck - - -	5
The Highway of Tomorrow —Frank T. Sheets - - -	12
Basing Point and Freight-Zone Price Systems Under the Anti-Trust Laws —James R. Withrow, Jr. - - -	16
What is the Future of Private Enterprise? —Donald D. Conn - - -	30

**Netherland Plaza Hotel, Cincinnati,  
Ohio, where crushed stone produ-  
cers from all sections of the United  
States will convene on January 24,  
25 and 26, 1938, for the Twenty-  
first Annual Convention of the  
National Crushed Stone Association**





# THE CRUSHED STONE JOURNAL

WASHINGTON, D. C.

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JULY-AUGUST, 1937

## Annual Convention Will Return To Cincinnati Next January

**B**Y UNANIMOUS decision of the Board of Directors, reached at its mid-year meeting held at White Sulphur Springs, West Virginia, on June 17, the Twenty-First Annual Convention of the National Crushed Stone Association will be held at the Netherland Plaza Hotel, Cincinnati, Ohio, on January 24, 25 and 26, 1938.

The conclusion to hold the annual meeting at the same city and hotel in two successive years was not reached without mature and deliberate consideration. In developing plans for the Annual meeting held at Cincinnati last year it will be recalled that almost above everything else was the desire to bring about a return to the old-fashioned type of crushed stone convention, such as prevailed before the days of the Code. This feeling grew out of the belief that during the Code regime much of the intimacy and camaraderie which contributed so definitely to the enjoyment and pleasure of the annual meeting was unavoidably forced to the background under pressure of a wide variety of matters involving Code administration and demanding attention during the convention period.

The extent to which this objective was accomplished at the meeting last January was evidenced by the spontaneous and enthusiastic endorsement accorded last year's convention activities by those in attendance. Without fear of exaggeration it can be stated that not for years has the annual meeting been acclaimed with such general approval . . . not only from the point of view of the interest and value of the program but particularly because there was a return in fact to the character of convention which attained such popularity in the days before the depression.

To a degree perhaps not often realized the atmosphere and environment in which the convention

is held has an important bearing upon its ultimate success. The Netherland Plaza Hotel in Cincinnati, in addition to adequately meeting our somewhat exacting requirements as to mechanical facilities, provides an exceptionally pleasant and intimate atmosphere as a suitable background for convention activities. The City of Cincinnati is particularly well situated as regards the crushed stone industry, the vast majority of its members being located within an overnight ride.

The Manufacturers' Division of the Association will hold, in conjunction with the convention, the customary Exposition of Machinery, Equipment and Supplies used in the production of crushed stone. To select a hotel adequate in all other respects and yet providing suitable and easily accessible accommodations for the machinery exhibit is one of the most difficult problems confronting those charged with the selection of the convention city and headquarters hotel. With exhibit halls located close to other convention activities and with adequate freight elevator facilities for expeditiously handling heavy exhibits from the street to the booths, the Netherland Plaza demonstrated last year its ability successfully to cope with what frequently constitute real obstacles to a smooth running convention and exposition.

Although the unusually fine convention facilities of the Netherland Plaza are well known to members of the crushed stone industry, it seems appropriate to again emphasize the more important features which will so markedly contribute to the comfort and pleasure of those in attendance at the Annual meeting next January. Its public space was especially designed for the accommodation of conventions, thus making it possible to concentrate practically all convention activities on one floor. Spacious and at-

tractive quarters are available for the holding of the general sessions of the convention while an unusually large number of private dining rooms can be utilized for luncheons and group meetings. As previously noted, the facilities for housing the Manufacturers' Division Exposition are especially good, a factor which contributes substantially to the economy of exhibiting. Adequate accommodations to house all delegates have been guaranteed by the management at rates which are certain to prove attractive, beginning as low as \$3.00 per day single or \$2.75 when occupied double. Excellent meals will be available throughout the convention period in a number of different dining rooms in the hotel at a range in price certain to meet with popular approval. Lowest prices will prevail in the famous Netherland Plaza Coffee Shop where breakfast can be obtained at \$.35, \$.50 and \$.55, luncheon at \$.55 and \$.75 and dinner from \$.85 to \$1.25.

The decision of the Board to return to Cincinnati next year for the annual meeting is certain to meet with the whole-hearted approval of all who were able to attend the convention last year. Though we are fully aware of the responsibilities and attendant difficulties of making the forthcoming annual meeting more interesting, valuable and enjoyable than its predecessors, it shall be our constant aim in planning for the Twenty-First Annual Convention to make it equal and if possible exceed the unusual success and popularity the meeting last year justifiably enjoyed.

In general the crushed stone industry has continued to show improvement during the current year and we learn almost from day to day of new developments and improvements by the manufacturers of machinery, equipment and supplies serving our field. As in the past, the Exposition will offer the unparalleled opportunity of the year to acquaint, under most favorable circumstances, the leading producers of the crushed stone industry with the latest developments and economies in production.

Crushed stone producers and interested manufacturers of machinery and equipment simply cannot afford to miss this annual event of outstanding importance and value to the crushed stone industry. In a location hardly surpassed by any in the country, with a headquarters hotel unusually well fitted adequately to handle all phases of convention activity, and with everything possible being done to provide an instructive and enjoyable meeting, operators throughout the country should now make their plans to participate in this annual foregathering of the in-

dustry. And remember . . . though sponsored by the National Crushed Stone Association, all producers whether or not members of the Association, are most cordially invited to be present.

Following the selection of the time and place for the next annual convention, the Board received detailed reports from the Engineering Director and the Administrative Director covering their respective activities during the first half of the year. These reports were received with enthusiastic approval. Details will not be given at this time as reports from each of the Directors covering the full year's activities will be made at the time of the annual convention in Cincinnati.

One of the most interesting discussions which took place during the course of the meeting was that on labor relations in the crushed stone industry. Many of the members present outlined their experience in this field of activity and the information thus exchanged proved of unusual interest and value. This is a subject which promises to increase in interest during the months ahead. By the time of the Cincinnati meeting an exchange of ideas concerning the labor situation should command the interested attention of the entire membership.

White Sulphur Springs proved a popular selection for the location of the Board meeting, as evidenced by the unusually large attendance. It was also especially gratifying to note that the custom of members bringing their wives to the mid-year meeting is increasing in popularity. More ladies were present than at any meeting in our recollection, and needless to say were a most welcome addition. Following is the list of those present at the meeting:

#### MEMBERS OF THE BOARD

- H. E. Rodes, Franklin Limestone Co., Nashville, Tenn.,  
President, National Crushed Stone Ass'n
- W. M. Andrews, Union Limestone Co., New Castle, Pa.
- W. P. Beinhorn, The Trap Rock Co., Minneapolis, Minn.
- L. J. Boxley, Blue Ridge Stone Corp., Roanoke, Va.
- J. R. Boyd, Administrative Director, National Crushed  
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- A. T. Goldbeck, Engineering Director, National Crushed  
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- Otho M. Graves, General Crushed Stone Co., Easton, Pa.
- N. E. Kelb, Ohio and Indiana Stone Co., Indianapolis, Ind.
- E. J. Krause, Columbia Quarry Co., St. Louis, Mo.
- M. S. Lambert, Robins Conveying Belt Co., Chicago, Ill.,  
Chairman, Mfrs.' Division
- Thos. McCroskey, Amer. Limestone Co., Knoxville, Tenn.
- W. T. Ragland, Raleigh Granite Co., Raleigh, N. C.
- H. E. Rainer, Federal Crushed Stone Co., Buffalo, N. Y.
- Russell Rarey, Marble Cliff Quarries Co., Columbus, Ohio
- J. A. Rigg, Acme Limestone Co., Fort Spring, W. Va.
- Daniel Sanborn, Lehigh Stone Co., Kankakee, Ill.

(Continued on page 11)

# The Durability of Limestone or Dolomite Concrete in Water-Exposed Structures

By A. T. GOLDBECK

Engineering Director, National Crushed Stone Association

IT SELDOM occurs that limestone or dolomite is the subject of any doubt when used in concrete exposed to water action. At times, however, this question has been raised, in all probability because of the known solubility of calcium carbonate or magnesium carbonate when subjected to acid solutions. It, of course, is a fact that both limestone and dolomite are soluble in water to some extent as attested by the presence of underground caves in limestone or dolomite areas.

The geologist looks upon limestone and dolomite as being among the more soluble mineral constituents of rocks and from the geological standpoint and thinking in terms of geological ages, no doubt limestone and dolomite in a relative sense might be considered as non-durable materials. But before condemning such materials for use in concrete for engineering structures, it will be well to examine all of the facts and not be governed merely by geological experience.

The essential elements of concrete are the aggregate, including both fine and coarse, and the portland cement paste which binds those aggregates together. In considering the durability of concrete, therefore, one cannot escape consideration of the relative durability of these component parts, for surely if one portion of the concrete is less durable than another it will be that portion which will control the life of the structure. For illustration, if the binding medium, the portland cement paste, is more subject to attack than either the fine or the coarse aggregate, the portland cement paste will be the main factor in controlling the durability of the concrete. On the other hand, if either one of the aggregates, fine or coarse, is the least durable of the essential elements of the concrete, it, in turn, will be the life-controlling factor of the structure.

## SOLUBILITY OF CEMENT IN WATER

Perhaps the first thought which occurs to anyone in connection with the resistance of concrete to the

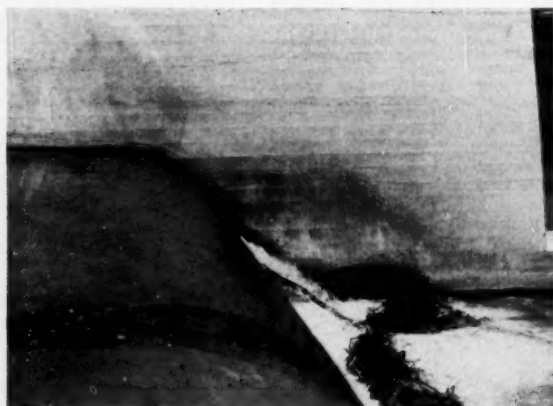
♦ That sound limestone and dolomite are durable aggregates for use in water exposed concrete is definitely shown in the accompanying article. In not a single case has limestone or dolomite been the cause of concrete deterioration due to the dissolution of the aggregate.

action of water is, What is the relative solubility of the various constituents? If the cementing medium dissolves, naturally the aggregate will no longer be bonded together. Evidence on the relative rate of solubility of portland cement paste and limestone aggregate may be obtained from various sources in articles already published. P. H. Bates of the National Bureau of Standards in a Symposium on the "Behavior of Concrete in Structures" before the American Society for Testing Materials in 1923 discussed as his portion of the Symposium, "What Properties of and Methods of Making Cement Require Further Investigation?" On page 165 of the 1923 proceedings of the A. S. T. M. Mr. Bates makes the following statement: "Or consider the condition of a sewer subjected to the action of water at practically all times, yet somewhat more than 50 per cent of the cement is soluble in water." He was making the point of relatively high durability of concrete in structures in spite of the high solubility of the cement. In the same paper Mr. Bates states, "Hydrated cement, the matrix of concrete, is just as soluble as limestone, in fact, it is more soluble."

In Technological Bulletin No. 12 of the National Bureau of Standards which is entitled, "Action of the Salts in Alkali Water and Seawater on Cements," by Bates, Philips and Wig, there appears a curve on page 47 showing the percentage of lime removed from various cements by distilled water. This curve refers not only to cement in its original form, but also to set cement. At the end of 52 weeks in water, one of the set cements lost approximately 27 per cent of its lime content; another lost over 37 per cent and one of the unset cements ran over 50 per cent. Apparently, the lime of the different cement compounds had the same solubility. Thus, on page 48, "There are no breaks in the curves that might have shown that the lime of the silicates, alumina or ferite has a different solubility." These curves show very conclusively that an exceedingly high percentage even



of set cement is soluble in water. During the corresponding period of time neither limestone nor dolomite would suffer more than a small fraction of the above losses from solution. Some laboratory tests have shown that under certain conditions portland cement paste in a set condition is 200 times as soluble as dolomite.



CLOSE UP VIEW OF CONCRETE IN POWERHOUSE HEADHALL OF THE DAM AT NEW BRAUNFELS, TEXAS, BUILT IN 1922. NOTE ENTIRE ABSENCE OF ANY SOLVENT ACTION ON EITHER THE AGGREGATE OR THE MORTAR.

#### RELATIVE POROSITY OF CEMENT PASTE, MORTARS AND COARSE AGGREGATE

There is another factor which must be considered in connection with the relative effect on concrete of the solubility of the cement paste and of the aggregate; namely, the matter of relative absorption of these respective materials. Tests made by the National Crushed Stone Association laboratory and published in the April, 1931, issue of the *Crushed Stone Journal*, page 7, give important data showing extremely high absorption of portland cement paste and mortars and the following table is taken from those data.

#### PER CENT FREE WATER IN MORTAR MIXTURES

Weight immediately after molding minus oven dry weight\*

Per cent Free Water ————— x 100  
Oven dry weight

	W/C	1 Neat Cement	2 1:1	3 1:1½	4 1:2	5 1:2½	6 1:3
A	0.63	21.5	10.9	8.9	7.3	8.8	11.3
B	0.70	24.4	13.0	10.4	8.3	7.2	9.8
C	0.77	27.5	14.9	12.1	10.3	8.6	8.0
D	0.84	29.6	15.6	12.7	11.2	8.8	7.8
E	0.91	29.8	17.6	14.7	12.5	9.6	8.9
F	0.98	32.6	18.6	16.0	13.5	11.5	10.4

\*After curing for 28 days.

In order to gain additional information on the porosity of neat cement paste, 2 inch cubes were made up in the N. C. S. A. laboratory using 5 gal., 6 gal. and 7 gal. of water per bag of cement respectively. These cubes were cured for 28 days in the moist room and were then dried in an oven at 210 to 220 F. for 24 hrs., at the end of which time they were immersed in water for 24 hrs., surface dried and weighed. On the basis of these weights the percentage of absorption was obtained; likewise the percentage of voids by volume in the paste was calculated and also the bulk specific gravity of the paste was obtained by the A. S. T. M. Tentative Standard Method. These values are given in the following table.

#### ABSORPTION, VOIDS AND BULK SPECIFIC GRAVITY OF NEAT CEMENT PASTE

2-in. Cube No.	W/C Vol.	Gals. Water per Bag	Per cent Absorption	Per cent Voids*	Bulk Specific Gravity
5	0.667	5	16.8	27.7	1.71
6	0.800	6	22.7	34.6	1.52
7	0.935	7	26.6	39.0	1.47

\*Calculated from absorbed water only.

It is perhaps surprising to note the very high percentage of voids in the cement paste even when the cement was mixed with only 5 gal. of water per sack of cement. With 6 gal. of water per sack of cement over one-third of the total volume of the paste is represented by voids. These figures for voids are lower than the actual value because the method of making the absorption test does not produce complete absorption. There is, of course, a correspondingly low bulk specific gravity. For illustration, the bulk specific gravity of the paste containing only 5 gal. of water per sack of cement is 1.71; that for 6 gal. of water is 1.72 and for 7 gal. of water per sack of cement the above specific gravity is only 1.47. Contrast these values with corresponding values for a good grade of dolomite. Such material may have a specific gravity in the vicinity of 2.8 and an absorption of only 0.228 per cent. It is interesting to note the ratio of the percentage of absorption of the port-

#### RATIO OF PER CENT OF ABSORPTION OF PORTLAND CEMENT PASTE AND DOLOMITE

W/C	Neat Cement Paste		Dolomite	Ratio of Absorption of Portland Cement Paste to Dolomite
	Gal. per Sack	Per cent Absorption	Per cent Absorption	
0.667	5	16.8	0.228	73.5
0.800	6	22.7	0.228	99.5
0.935	7	26.6	0.228	117.0

land cement paste in comparison with that of such dolomite. These values are given in the preceding table (at bottom of page 6).

Roughly, then, as seen in the above table, a given volume of portland cement paste may be 100 times more absorbent than the same volume of dolomite. When this fact is coupled with the further fact that the portland cement paste is more soluble in water than the dolomite, the conclusion is indicated that the portland cement paste is the controlling factor in the life of concrete subjected to the solvent action of water. The extreme porosity of portland cement paste as it exists in concrete is also well illustrated in Fig. 1 of "Basic Principles of Concrete Making," by F. R. MacMillan. The following table is made up from values taken from that figure.

TABLE ILLUSTRATING HIGH POROSITY OF PORTLAND CEMENT PASTE

Mix	Water Gal. per sack	Portland Cement Paste		Concrete Uncombined water (pore spaces)
		Uncombined water in paste (pore spaces)	Solid Volume of Cement plus combined water	
1-1-2	4.25	36	64	12
1-1½-3	5.00	40	60	11
1-2-4	6.00	45	55	11
1-2½-5	8.00	52	48	12
1-3-6	10.00	60	40	15

A large percentage of pore space in the concrete as shown in the last column of the table is due almost entirely to the high porosity of the cement paste. The pores in the paste are very small and, consequently, the surface area of the paste when exposed

to water action is exceedingly great as compared to the area of the stone in contact with the absorbed water. The laboratory evidence therefore would seem to point to the fact that even though limestone and dolomite may be slightly soluble in water the binding medium is unquestionably much more soluble in water and this accounts for the service evidence obtained from a number of eminent sources to the effect that limestone or dolomite concrete subjected to water action does not fail due to any solvent action of the water on the aggregate, but rather that when such failure does take place the solution of the cementing medium is a primary factor.

#### SERVICE OBSERVATIONS OF CONCRETE

A number of observations have been made in service on limestone and dolomite concrete and a number of statements of interest occur in the published literature. Duff Abrams in the 1923 A. S. T. M. Proceedings, page 174, in a paper entitled, "Influence of Aggregates on the Durability of Concrete" states, "In conclusion, it may be stated that the strength and durability of concrete depend to a large degree upon the quality of the concrete and only to a minor degree on the characteristics of the aggregate used."

P. J. Freeman in the same Proceedings of the A. S. T. M., page 189, quotes from Mr. Chas. A. Newhall as follows: "In the Cascade Tunnel two distinct types of disintegration were noted. In one type the concrete softened and became mushy without swelling or the formation of white mud. This disintegration is due to the acts of solution and removal of cement



DAM AT NEW BRAUNFELS, TEXAS, BUILT IN 1922 WITH LIMESTONE COARSE AGGREGATE. CONTINUOUSLY UNDER WATER WITH NO SIGNS OF DETERIORATION.



by water flowing over and through an originally porous concrete."

Dolomitic limestone was used in a water tunnel in Chicago that was inspected after it had been in service for 25 years. The results of this inspection are contained in *Engineering News-Record* of March, 23, 1933. It was noted that calcium carbonate accre-



O'SHAUGHNESSY DAM BUILT IN 1925 NEAR COLUMBUS, OHIO. LIMESTONE COARSE AGGREGATE USED. NO SIGNS OF ANY SOLUTION OF THE STONE.

tions of large size formed which interfered with the flow of the water to some extent. In the *American Water Works Association Journal* for October, 1933, Vol. 25, No. 10, there is a paper on the same subject entitled, "Some Interesting Phases of Chicago's Water Works Activities," by M. B. Reynolds. Mr. Reynolds quotes from Mr. Baylis, Physical Chemist of Chicago, who aided in the investigation of the tunnel inspected. Mr. Baylis speaks of the accretions as follows:

"There are two conditions necessary to make the formation of these accretions possible. One is that the water on the inside of the tunnel must be saturated with calcium bicarbonate and the other is that there must be slow leakage from the outside of the tunnel through the concrete into the inside. It is well known that the constituents in portland cement which give the cement its binding strength are compounds of calcium and silica and combinations of calcium and alumina. The compounds are generally referred to as being tri- or di-calcium silicates and tri-calcium aluminate. Such compounds when submerged in water will give up calcium hydroxide to the extent of making the water saturated with these compounds, provided there is a large amount of con-

crete for the amount of water. When water seeps through the concrete it dissolves the calcium from the concrete and at first will go through the concrete practically saturated with calcium carbonate. (Note: calcium hydroxide probably intended, see following paragraph.) It may decrease materially as the flow continues and more of the calcium is washed away. When all of the calcium has been washed away there is no strength left to the concrete.

"What happened in the Blue Island Tunnel when the accretion formed was, that there was a slow leak which allowed the water to take up quite a large amount of calcium hydroxide in passing through the concrete. When this solution reached the inside of the tunnel it came in contact with water saturated with calcium bicarbonate. The lime water converted the calcium bicarbonate to calcium carbonate and formed a precipitate of this substance. Some of the calcium carbonate precipitated on the walls of the tunnel around where the seepage occurred. The precipitate of calcium carbonate was porous and offered little or no resistance to the pressure of the seepage water. As a result, the accumulation of the precipitated calcium carbonate kept increasing inside and this kept continuing until the accretions reached fairly large size or until they reached a size where the flow of the water prevented them from building much larger.

"Examination of the water on the inside of one of the accretions showed that it contained about 500 p.p.m. of calcium hydroxide. This is nearly one-third the saturation point of calcium hydroxide. It is likely that some of the accretions contained water with a higher concentration of calcium hydroxide and others contained a much lower concentration, due to a large amount of the calcium being dissolved from the concrete. There is the probability that in some places the accretions stopped growing due to the fact that all of the calcium around the channel through which the leakage passed had been washed away."

The significant points about the above discussion are, first, that calcium hydroxide and not calcium carbonate was taken up by the water in passing through the concrete and, second, that an analysis of the inside of one of the accretions showed the presence of a large amount of calcium hydroxide. This calcium hydroxide could have come from nothing in the concrete but the cement. Without doubt, had a denser and more water-tight concrete been used, the trouble with accretions would not have developed at

all. In any event, such trouble as did develop was very evidently due to the solution of the cement and not of the dolomitic aggregate.

#### TESTS BY NEW YORK BOARD OF WATER SUPPLY

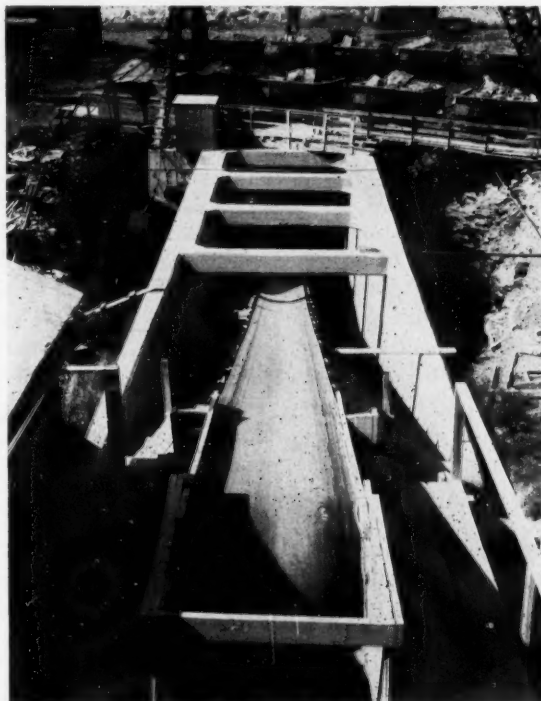
The following was copied from "Permeability of Concrete and Solubility of Aggregate by the Board of Water Supply of New York City appearing in the *Cement and Engineering News*, Vol. 23, page 188, May, 1911.

"Tests on the permeability of concrete and the solubility of aggregates were made during 1909 by the Board of Water Supply of New York, which has been published in its latest annual report and summary of the work accomplished. Studies were made of the effects of various fine materials incorporated in the matrix of concrete, in reducing permeability, including clays, hydrated lime, puzzolan and sand cements, those two cements being more finely ground than portland cement. The conclusion was reached that concrete, practically impervious under 200 feet head can be produced with any of these materials, but that equally good results can be secured by using sufficient portland cement, the latter method having the advantage of securing concrete of increased strength, while the other materials usually reduce strength.

"A series of tests was made on the solubility of various rocks used as concrete aggregates on the work, particularly limestone and others of the more soluble rocks, to determine their fitness for concrete which might be subject to the solvent action of percolating water. Cylindrical specimens of concrete 8 inches in diameter and 6 inches in length were exposed for a period of 11 months to the percolating action of Croton water under a pressure of about 22 lb. per sq. in. Each specimen was enclosed in a neat portland cement mortar, 2 inches thick except on the bottom, so as to give the water access only to the full end area and compel the entire flow to pass through it. The upper end, under the mortar cover, was covered with a layer of sand 1 inch thick, through which the water flowed from the pressure pipe. The bottom was free. The proportions used in the concrete were 1 part of portland cement,  $3\frac{1}{2}$  parts crushed quartz and 6 parts broken stone. The proportions were measured by weight.

"Periodic analysis of the water coming through the specimens indicated, by change in mineral content, a rapidly diminishing rate of solution, the solvent action practically ceasing after 5 months. Specimens

containing granite and quartzite aggregates showed higher rates of solution than any of the limestones with one exception. A strongly magnesium limestone showed the highest resistance of all in the series. The rate of leakage in all specimens decreased rapidly during the first six months, and at a lower rate thereafter. The analysis of the perco-



CONCRETE PIT BUILT AT LeROY, NEW YORK, IN 1924 WITH LIMESTONE FINE AND COARSE AGGREGATES. SUBJECTED CONTINUOUSLY TO WATER WITH NO DETERIORATION AND NO LEAKAGE.

lating water seemed to indicate that whatever solution occurs within a mass of concrete affects chiefly the cement."

#### EXPERIENCE OF EMINENT AUTHORITIES

The writer has conducted correspondence with a number of the most important agencies having to do with the construction of hydraulic structures or with their investigation. In not one single instance has any of the eminent engineers reporting on this subject been able to point to a case where trouble with the concrete has been due to the solvent action of water on either limestone or dolomite coarse aggregate. It would seem therefore that this particular possibility of trouble from the use of limestone and

dolomite can be dismissed from consideration in the light of laboratory investigations and also of long years of experience.

One authority responsible for the building of millions of dollars worth of concrete structures subjected to water action writes as follows:

"So far as our experience goes we have always used coarse aggregate which was above suspicion in any concrete used in hydraulic structures. Such structures have been and are subject to considerable deterioration but so far as we know no deterioration in the concrete has resulted from the character of the coarse aggregate in use in the concrete. Usually it is a case of the water leaching out the soluble parts of the cement. We have used crushed arkose, crushed dolomite limestone, crushed trap rock and siliceous gravel as the coarse aggregate in concrete for dams and tunnel linings which are subject to the action of water under 200 feet of head. The fact that in no case has the coarse aggregate given any trouble means that we do not have the information requested in your letter except in negative form."

Still another equally eminent authority responsible for the building of an equal or greater volume of concrete structures than the engineer previously quoted has stated his opinion that possibly the impression that limestone is soluble rock is due to the fact that it is so considered by geologists who think in terms of geological time, whereas for engineering purposes there appears little data to warrant a fear that it will not outlast the materials combined with it. A technical report by this same organization states that under certain conditions the cement may be 200 times as soluble as dolomite.

Still another equally eminent authority who has examined a large number of old concrete structures subjected to water has stated that he has never observed a single case where trouble with the concrete was due to the soluble action of water on either limestone or dolomite.

In the *Crushed Stone Journal* of June, 1931, there appears an article by Roderick B. Young, Testing Engineer of the Hydro-Electric Power Commission of Ontario. This article entitled, "More Lessons from Concrete Structures in Service," was originally presented as a paper before the 27th annual convention of the American Concrete Institute. The following quotations are particularly applicable to the present discussion: "Research tells us that given the opportunity, any water will in time completely remove the binding material which is formed in concrete by

the hydration of cement." \* \* \* "Mention has already been made of the solvent action of water adjacent to leaking joints or cracks, but it is by no means confined to these places. Porous concrete where totally submerged in water will have the cementitious material dissolved therefrom in a few years even when the water in contact with it is hard." \* \* \* "Another manifestation of the solvent action of water is regularly found wherever concrete has been in contact with soft, pure waters for any length of time. In such cases the water dissolves the surface coating of the cement mortar exposing the underlying aggregate. This action takes place relatively rapidly at first until the aggregate has been exposed, after which the action becomes very slow, for then the only cement in contact with the water is that between the aggregate. The author has examined concrete structures less than 2 years old that have been etched in this way and others from 10 to 30 years old that had a deeper etch but still no unravelling of the affected surface. In hard water this etching action is very slow." \* \* \* "None of these surface manifestations of the corrosive action of water are serious, but give a quantity of that same water a chance to penetrate the concrete and the results may be very dangerous." \* \* \* "A study of the characteristics of those waters that have proved most corrosive to concrete reveals the interesting fact that, whereas the hydration products of cement are soluble in any water, those that are most destructive are relatively pure waters carrying so little CaO in solution that they are lime hungry and having acid reaction as indicated by hydrogen-ion concentration below 7.0. These observations have been confirmed by investigations recently reported in Germany." Another quotation. "The fundamental condition which is common to almost every disintegrated concrete is that it is porous in the sense that it is absorptive or permeable to water. Prevent the penetration of water into concrete and it at once becomes a building material highly resistant to all ordinary destructive agencies." \* \* \* "If one accepts this conclusion, as one almost must after a critical review of the evidence offered by concrete everywhere, then the problem of durable concrete becomes a problem of making it dense and non-porous, or speaking in terms of measurable properties, impermeable and non-absorbent. Among other conclusions, Mr. Young gives the following:

"6. Unsound aggregate can cause serious disintegration, but trouble of this kind is not general and



usually does not become a factor in destroying concrete unless the concrete is otherwise unsatisfactory.

"9. Water, if allowed to penetrate concrete, may and often does, totally destroy it due to its solvent action on the cementitious binder."

It will be noted that Mr. Young lays emphasis on the cementing medium rather than on the aggregate as being the cause of trouble if the concrete is of a porous nature. He gives no citation of trouble due to the solvent action of water on either limestone or dolomite.

#### POSSIBLE ABRADING ACTION OF SOLIDS IN SUSPENSION

In certain types of hydraulic structures which carry flowing water containing abrasive material in suspension, the question comes up as to the relative wearing effect of these abrasive materials on the portland cement mortar as compared with that on limestone. No direct test results on this question seem to be readily available, but light is thrown on this question by tests performed in the U. S. Bureau of Public Roads and reported by F. H. Jackson in the *Journal of Agricultural Research*, July 30, 1917. On page 269 of that Journal are shown the results of hardness tests made by means of the Dorry hardness machine on portland cement mortars. These results taken from Fig. 3 of that report are as follows:

Proportions by Volume	Loss in Grams (1000 Rev.)	Calculated Dorry Hardness Coefficient (20-1/3 loss)
Neat cement	16	14.67
1:1	7.5	17.5
1:1½	6	18
1:2	5	18.3
1:3	5	18.3
1:4	12	16

The sand used was Potomac River sand and the specimens were stored for seven days in water.

A good grade of dolomite will have a Dorry hardness coefficient of about 17.5 and some limestones will run lower than this figure. It is evident, however, that the neat cement paste is the least resistant to abrasion of any of the constituents in the concrete, unless an extremely soft grade of limestone is used.

In the previously cited water tunnel which was examined after 25 years service, trowel marks on the mortar were still visible, so that the scouring action was almost nil. Evidently, a very high velocity of current carrying sediment becomes necessary before scouring becomes an important factor in the life of the concrete and this kind of failure of water-contact structures made of concrete is extremely rare.

Certain chemicals carried in solution such as sodium and magnesium sulfate, carbon dioxide and dilute acids will, of course, accentuate the destructive action of water. Their effect, however, is primarily on the cementing medium and to a very much lesser degree on the aggregate. Volumes of literature have been written on the action of sulfates on concrete and this is a separate study.

#### CONCLUSION

*In conclusion, there is one outstanding fact, namely, that limestone and dolomite aggregate do not cause trouble in concrete through their solution when in contact with water. The least resistant portion of the concrete seems to be the cementing medium, but in spite of this fact concrete structures are highly resistant to water action, provided care is taken to proportion, place and cure the concrete so as to obtain a dense, impermeable mass.*

#### Convention in Cincinnati Next January

(Continued from page 4)

James Savage, Buffalo Crushed Stone Co., Buffalo, N. Y.  
F. W. Schmidt, Jr., Morris County Crushed Stone Co., Morristown, N. J.  
L. W. Shugg, General Electric Co., Schenectady, N. Y.  
W. C. Sparks, Cedar Bluff Quarry, Princeton, Ky.  
Stirling Tomkins, New York Trap Rock Corp., N. Y. City  
T. I. Weston, Weston and Brooker Co., Columbia, S. C.  
A. L. Worthen, New Haven Trap Rock Co., New Haven, Conn.

#### GUESTS

J. E. Boyd, Weston and Brooker Co., Columbia, S. C.  
R. P. Immel, American Limestone Co., Knoxville, Tenn.  
S. C. Hadden, Indiana Mineral Aggregates Association, Indianapolis, Ind.  
A. W. McThenia, Acme Limestone Co., Fort Spring, W. Va.  
S. A. Phillips, Pit and Quarry, Chicago, Ill.  
N. C. Rockwood, Rock Products, Chicago, Ill.  
R. B. Shepard, Raleigh Granite Co., Raleigh, N. C.  
P. J. Walsh, West Virginia Contractors' Association, Charleston, W. Va.

#### LADIES

Mrs. W. M. Andrews, New Castle, Pa.  
Mrs. W. P. Beinhorn, Minneapolis, Minn.  
Mrs. L. J. Boxley, Roanoke, Va.  
Mrs. J. R. Boyd, Washington, D. C.  
Mrs. F. O. Earnshaw, Youngstown, Ohio  
Mrs. Hart, Nashville, Tenn.  
Mrs. A. W. McThenia, Ft. Spring, W. Va.  
Mrs. S. A. Phillips, Chicago, Ill.  
Mrs. W. T. Ragland, Raleigh, N. C.  
Mrs. H. E. Rainer, Buffalo, N. Y.  
Mrs. J. A. Rigg, Ft. Spring, W. Va.  
Mrs. H. E. Rodes, Nashville, Tenn.  
Mrs. R. B. Shepard, Raleigh, N. C.  
Mrs. P. J. Walsh, Charleston, W. Va.

# The Highway of Tomorrow<sup>1</sup>

By FRANK T. SHEETS

Consulting Engineer, Portland Cement Association, Chicago, Illinois

**C**OMPARED to roads of 30 years ago, the highways of today are marvels of excellence. The public has provided funds with generosity, and American engineers have done a fine job. In the last 16 years, we have expended \$11,000,000,000 for rural highways alone.

But in spite of our phenomenal highway development, in spite of all the vision which has accompanied its financing and engineering accomplishment, today's system is woefully inadequate.

The motor car has made possible the present highway system, and, conversely, improved roads have made possible the present widespread use of the motor car. But the unpredictable growth in highway transport and the startlingly rapid evolution of the motor car from the crawling, creeping crate of yesterday to the speedy, streamlined marvel of today have made obsolete the highway system evolved from yesterday's concepts.

We face congestion, traffic delays, obsolescent physical hazards in many of our older roads, the need for more roads, and, worst of all, the highway accident problem.

Progressive strides have been taken and must continue to be taken in driver education and in providing safety regulations for vehicles, but the ultimate in traffic convenience and safety will not be reached until we actually provide adequate highways and build safety into them.

Therefore, let's envision the highway system of tomorrow—a network of roadways that would not only satisfy our present demands for fast safe travel, but would meet future requirements of both urban and rural people for many years to come.

Tomorrow's highway system must include terminal facilities, main super-highways, main trunk highways, intermediate highways, land service roads, by-passes and belt lines, arterial streets, and land service streets. Each phase will be discussed in the order named.

♦ Today's highways, in the opinion of Mr. Sheets, are woefully inadequate. From a broad experience in the highway field he envisions in the following article our highway system of tomorrow and his observations should prove highly illuminating.

## Terminal Facilities

In metropolitan centers there must be provided elevated or depressed limited ways to pick up traffic delivered at the edges of these congested areas and from other thoroughfares within the areas themselves and move it with safety and dispatch to the focal points.

These major traffic arteries must have adequate traffic and safe speed capacity; must have opposing traffic lanes separated; must be free from grade crossings either with railways or other highways, and must have suitable ramps for picking up and discharging traffic at strategic points.

## Main Super-Highways

Transcontinental and intersectional travel will demand the development of a limited mileage of super-highways, permitting high speed, safe travel between important population centers and between major sections of the United States.

These highways will ultimately provide from four to eight traffic lanes, each 12 feet wide; will have no grade crossings with highways or railways; will eliminate all pedestrian and horse-drawn traffic, and will provide for egress and ingress of vehicular traffic at only fixed points several miles apart.

Speed will be limited only by the capacity of driver and vehicle. Trucks and slower moving vehicles will be segregated into special lanes. Opposing traffic lanes will be separated. Alignment, grade, sight distance and superelevation should be predicated on top speeds of 100 miles per hour. Free movement and discharge capacity should be encouraged rather than discouraged by arbitrary speed limitations and unwise policing. These highways will avoid all cities and towns.

## Main Trunk Highways

Supplementing the main super-highways will be a larger system of main trunk highways. These will feed traffic into the main super-highways and will

<sup>1</sup> This article was developed from an address delivered last Spring before the Eighth Annual Convention of the Greater New York Safety Council. Mr. Sheets' complete address may be secured by addressing the Portland Cement Association, 33 West Grand Avenue, Chicago.



serve other inter-city, inter-state and intersectional traffic. They will probably be divided into two groups:

(a) Primary main trunk highways will be improved to high standards of surface, grade, alignment, sight distance and superelevation. Traffic lanes will be from 10 to 12 feet in width, and where more than two lanes are needed, the opposing lanes will be separated.

Grade separations will be provided at railways and important intersecting highways. Walkways will be provided for pedestrians. Wherever possible, these highways will avoid the built-up sections of cities and towns. Safety will be designed into these highways to permit cruising speeds up to 80 miles per hour except where physical conditions require reductions. Safe speeds will be posted.

(b) Secondary main trunk highways will supplement the primary main trunks and will round out the main highway system by serving inter-city, inter-state and intersectional travel which is important but not of major significance. On these roads, high standards of design and operation will be used, modified from the "primary" standard as conditions may warrant. In open country, the safe speed should be 60 miles per hour.

### Intermediate Highways

These highways will include those which serve mainly the traffic between local communities but



FIGURE 1.

CHICAGO HAS "FUTURE" HIGHWAYS ALREADY BUILT; THIS SHOWS OUTER DRIVE EXTENSION.

carry also some inter-state or intersectional travel. They will include the main county and main "farm-to-market" roads or roads reaching into neighbor-

hoods. Obviously they will not require the high standards of safety and load capacity which must be built into main trunks. Even these roads will require for safe and economical operation a much

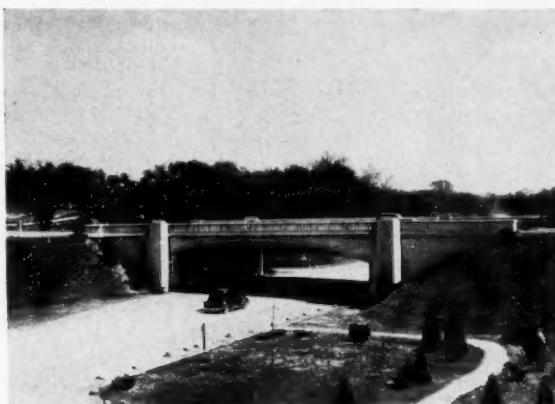


FIGURE 2.

LEADING HIGHWAY SAFETY AUTHORITIES SAY INTERSECTIONS OF MAIN HIGHWAYS MUST BE SEPARATED.

higher degree of improvement than they now enjoy.

Stable surfaces, two traffic lanes of at least 9 feet each, adequate shoulders and standards of alignment, grade, sight distance and superelevation compatible with maximum operating speeds of 50 or 60 miles per hour in open country should be employed. Where lower speeds are required by conditions, the safe limit should be posted.

### Land Service Roads

These will include the vast mileage of low traffic rural roads whose primary function will be to give access to land. They will never require high standards of surface, alignment, grade or sight distance. However, the American farmer will never be satisfied until these roads have placed on them some cheap form of all-weather stable surface.

### By-Passes and Belt Lines

Included in tomorrow's highway system will be by-passes or belt lines around all sizeable urban communities on main trunk highways. These facilities will be absolutely essential to the proper and safe use of main trunk highways. Likewise, they will offer the only reasonable insurance of convenience, peace of mind and efficiency in conducting the normal business and social affairs within these urban communities.

## Arterial Streets

Regardless of belt lines and by-passes, there will be need of improvement of arterial urban streets which will carry into and through the cities and



FIGURE 3.  
MORE EXTENSIVE USE OF THE FOUR-LANE DIVIDED HIGHWAY  
IS PREDICTED.

towns that part of rural main trunk traffic which has business within the urban area.

The urban routes must have adequate widths, smooth, stable surfaces and proper facilities for traffic control. There will also be other arterial streets or boulevards onto which local street traffic naturally gravitates. These must likewise be adequately improved for the general good.

## Land Service Streets

Comparable to land service roads are the local and residential streets which give access to urban property. Their improvement and maintenance cannot be dodged.

The question naturally arises—what will all this cost? Data are not available for making accurate estimates, but some general figures may be helpful in visualizing the problem ahead. There are about 3,000,000 miles of rural highways in the United States. The adequate improvement of this system will call for the following investment in addition to funds already expended. To make 60,000 miles of the system main super-highways would cost \$300,000 per mile, or a total of approximately \$18,000,000,000.

Two hundred and forty thousand miles of main trunk highways would cost \$10,650,000,000. Six hundred thousand miles of intermediate highways would cost \$12,000,000,000 and all weather surfaces

for land service roads, totalling 2,100,000 miles, would cost \$10,500,000,000.

Add to this \$5,850,000,000 for terminal facilities, arterial streets and belt lines and we have a grand total cost of \$57,000,000,000 not including local or land service city streets.

*This stupendous figure of \$57,000,000,000 for added highway facilities seems absolutely overwhelming. But we are not outlining immediate needs. The investment need not be made within any specified period of years. The facilities may be provided as demand becomes pressing and as funds can be raised.*

*Each specific project must be subjected to the acid test of its economic justification. Will it pay dividends in sufficient amount to amortize the investment and to justify the annual cost of maintenance and operation? If not, defer the project.*

But no less courageous view of the future will insure the broad conceptions and fundamental planning which are essential to directing each year's work toward a realization of the ultimate objective. Data from the basic planning surveys now being made by the U. S. Bureau of Public Roads and the state highway departments must be analyzed, and sound administrative, financial and physical plans must be formulated and adopted. A master highway plan for the United States, of which each state and city plan shall be a component part, is the best insurance of realization of adequate and safe highway transport tomorrow.

Another natural question arises: Can such huge highway expenditures be justified? Various authorities agree that adequate versus inadequate highway improvement will effect a saving of at least two cents per vehicle mile of travel. In some instances this will result from elimination of traffic delays, in others from the reduced cost of driving vehicles on improved road surfaces, and in others from a combination of such factors.

Applying this to the vehicle miles of rural travel in 1935 (104 billion miles) we get an annual saving of \$2,080,000,000 which would, in about 25 years, amount to the investment suggested for rural highways.

More adequate highways will bring more use of highways by the present number of car owners and will induce more people to buy new vehicles. This will increase the total miles traveled and increase the savings which highways bring.

Still another important question: Where can we get the money? We are now collecting in motor taxes (license fees, miscellaneous fees and motor

fuel taxes) about \$1,000,000,000 a year. The joint committee of rail and highway users has enunciated the principle that motor vehicle owners should pay through motor taxes the entire cost of highways of general motor use and a part of the cost of other highway facilities, depending upon the extent to which they are in general use. There is general acceptance of the soundness of this principle. Unfortunately, many millions of dollars collected annually in motor imposts are diverted to other uses.

It is high time for the motorist to set his house in order; to see to it that his payments for highway service are wisely used in accordance with a definite plan and to get some real tracks on which to run his car.

With the increased highway use which will inevitably follow provision of adequate facilities, it is conservative to estimate that even the present rates of motor taxes will yield an average of  $1\frac{1}{2}$  billions of dollars per annum during the next generation. Reserving  $\frac{1}{2}$  billion for maintenance, operation, administration and other fixed charges, this should make available one billion dollars for new improvements.

The Federal Government will realize so many benefits in increased commerce, potential military

providing other facilities. These funds can be economically justified for use in completing the program of land service facilities. The latest figures available show an annual collection of approximately \$500,000,000 per year in local taxes for rural roads. About one half was spent for construction and one half for maintenance.

With proper efficiency practiced in local expenditure, and with the local road burden progressively becoming lighter, the local revenues should yield \$400,000,000 annually for construction. This would build  $10\frac{1}{2}$  billion dollars worth of rural land service roads in about 26 years.

From the foregoing analysis it is concluded that the extensive program predicted for accomplishing the highway system of tomorrow is not visionary, but, on the contrary, is fully justified for these reasons:

1. The expenditure will be fully offset by the savings in transportation which would result.
2. On the basis of present tax rates, there is money enough in sight to finance the program on a pay-as-you-go basis.

The elimination of physical hazards, the annihilation of congestion and freeing of traffic control which would be accomplished by the program outlined would yield enormous dividends in highway safety. The program could probably be justified on a life-saving basis alone.

It will be interesting to compare this article's predictions with the realization of 30 years hence. The prophet of today is vindicated by the reality of tomorrow. We must dream dreams—we must see visions.



FIGURE 4.

ALIGNMENTS WILL HAVE TO BE IMPROVED TO ELIMINATE DANGEROUS CURVES.

use and in the postal service, that an annual contribution of \$250,000,000 from that source would be fully warranted. Thus, the combined motor revenues and federal funds would finance on a "pay as you go" basis the entire  $46\frac{1}{2}$  billion dollar program of general motor use highway facilities in 37 years.

Such a program of general highway improvement would free local direct highway taxes for use in

## Frank T. Sheets Becomes President of Portland Cement Association

**E**LECTION of Frank T. Sheets as president of the Portland Cement Association, effective September 1, was announced on July 1 by Charles L. Hogan of New York, chairman of the Board. He succeeds Edward J. Mehren, who resigned last month to take care of his personal interests.

Mr. Sheets for the past four years has been consulting engineer and director of development of the Association.

Prior to that time he had been associated with the Illinois Highway Department for twenty-three years and for twelve years as superintendent of highways and chief engineer.



# Basing Point and Freight-Zone Price Systems Under the Anti-Trust Laws<sup>1</sup>

By JAMES R. WITHROW, Jr.

Member of the New York Bar  
New York City

THE report of the Federal Trade Commission to the President on Steel Sheet Piling,<sup>2</sup> the Wheeler Anti-Basing Point Bill,<sup>3</sup> and the Government's attitude toward uniform prices<sup>4</sup> again focus the attention of businessmen on the legality, as well as the commercial value, of basing point or freight zoning systems. There has been a pronounced trend in recent years for sellers to meet competition by adopting various more or less mechanical methods of dealing with freight costs in arriving at a final sale price.<sup>5</sup> Thus, in an increasing number of industries the practice of employing "basing-point", "multiple basing-point", and "delivered-price" systems has become customary.<sup>6</sup>

The purpose of most of these systems has been, in the main, three-fold: (1) to simplify figuring freight quotations;<sup>7</sup> (2) to enlarge the market of a given manufacturer by enabling him to quote a price which, by absorbing some freight charges, will compete with (or by adding additional charges for freight will be identical to) that of another manufacturer whose factories are situated in some other locality (in other words, it is an attempt to eliminate geographical position as a substantial ele-

◆ Recent anti-trust activities of the Federal Government, notably complaint filed by the Federal Trade Commission against the Cement Institute, again focus the attention of business men on the so-called "basing point," "multiple basing point," and "delivered price systems" which are becoming customary in an increasing number of industries. Prohibitions against such systems were introduced in the last session of Congress and seem certain again to receive Congressional attention in the near future. It is timely therefore that the legality as well as the commercial value of such selling methods be reviewed and in this connection the following article by Mr. Withrow should prove particularly helpful and informative.

ment in competition); and (3) to enable competitors to agree on, or otherwise to arrive at, uniform prices with greater ease, pursuant to some understanding between them.<sup>8</sup> The first reason for using such systems is of undoubted legal validity. The second has been seriously questioned in this respect by the Federal Trade Commission,<sup>9</sup> and the third is certainly *prima facie* illegal since it amounts to a violation of Section 1 of the Sherman Act.<sup>10</sup> These three are by no means the only advantages of such systems. In addition, there is for some products an advertising advantage in being able to offer a uniform price, and such systems eliminate the mechanical unwieldiness and the prohibitive cost of price schedules which would otherwise have to be translated from a maze of differing freight rates into a price schedule which would reflect those differences.<sup>11</sup>

The charge was repeatedly made by consumers, economists, and others<sup>12</sup> that such methods of arriving at prices amounted to discrimination under

<sup>1</sup> Reprinted from the University of Pennsylvania Law Review, Volume 85, No. 7, May, 1937.

<sup>2</sup> Fed. Trade Comm. Report on Steel Sheet Piling, 1936. This report was referred by the President to the Attorney General on June 15, 1936, for appropriate action. N. Y. Times, June 22, 1936, p. 1, col. 1.

<sup>3</sup> S. 1581, 75th Cong., 1st Sess. (1937), introduced February 17, 1937, 81 Cong. Rec., legis. day Feb. 15, 1937, at 1562. This bill is identical with S. 4055, 74th Cong., 2d Sess. (1936), introduced January 16, 1936, 80 Cong. Rec. 2408 (1936), and H. R. 11329, 74th Cong., 2d Sess. (1936), introduced on the same day, 80 Cong. Rec. 2534 (1936). See also a proposed amendment to Section 2 of the Clayton Act, H. R. 10486, 74th Cong., 2d Sess. (1936). These Anti-Basing-Point bills are discussed in more detail *infra*, and see *Hearings before Senate Committee on Interstate Commerce on S. 4055, 74th Cong., 2d Sess. (1936)*.

<sup>4</sup> *Id.* at 286-289; see Editorial, N. Y. J. Comm., June 23, 1936, p. 2, col. 1.

<sup>5</sup> Fed. Trade Comm., *supra* note 1, at 37-39.

<sup>6</sup> The following industries use a zone price system: iron and steel, tobacco products, thread, stoves, mahogany, asphalt, mastic tiles, salt, bathtub, alcohol, coffee, soap, corn products, linseed products, cereal products, newsprint, paper, gasoline and oil products, wire and cable, valve and fittings.

The following industries use basing-point systems (or modifications thereof): lumber, steel and iron, cement, zinc, corn products, copper, fertilizer, gasoline, lead, sugar, laundry machinery, crane and shovels, flour, range boilers, bolts, nuts and rivets, cast iron pipe, asphalt roofing, linseed oil. It should be noted that some materials are sold part on one and part on the other system. Generally speaking, the industries using such freight systems are those which have standardized products, or products which conventionally are of uniform grade and quality.

<sup>7</sup> The United States parcels post service and the American Express Company both use zoning systems as a matter of convenience.

<sup>8</sup> Fed. Trade Comm., *supra* note 1.

<sup>9</sup> See the following Fed. Trade Comm. reports: The Price of Gasoline in 1915-1917, 1918, at 149, 150, 153-154, 156; The Advance in the Price of Petroleum Products, 1920, at 54; Commercial Feeds, 1921, at 120 n., 163-164; Lumber Manufacturers Trade Associations, 1922, at 121; Western Pine Manufacturers Association, 1922; 2 Home Furnishings, 1923, at 89; Northern Hemlock & Hardwood Manufacturers Association, 1923, at ix; Prices, Profits and Competition in Petroleum Industries, 1928, at 71; Newsprint Paper Industry, 1930, at 37-44; Price Bases Inquiry: The Basing-Point Formula and Cement Prices, 1932; Basing-Point System in the Iron and Steel Industry, 1934; Practices of the Steel Industry under the Code, 1934; Range Boiler Industry, 1936; Steel Sheet Piling, 1936; and see Fed. Trade Comm., *supra* note 1. See also Tariff Comm. Information Survey, Cotton Thread, 1927.

<sup>10</sup> 28 STAT. 209 (1890), 15 U. S. C. A. § 1 (1927).

<sup>11</sup> *Supra* note 8.

<sup>12</sup> See especially FETTER, THE MASQUERADE OF MONOPOLY (1931); Note (1932) 45 HARV. L. REV. 548.

the old Section 2 of the Clayton Act<sup>13</sup> in that the sellers have, after making an allowance for the cost of transportation among their various customers, exacted higher prices from customers having little or no transportation expense and accepted lower prices from those having heavy transportation expense. The same argument against the validity of such practices will undoubtedly arise under the Robinson-Patman Act.<sup>14</sup>

Another criticism of such systems is that they result in the receiving by the Government and others of identical bids or price quotations from manufacturers.<sup>15</sup> To blame such uniformity solely on delivered-price systems is to overlook the distinct possibility that prices on a standardized commodity will tend to be uniform if effective competition exists. It is, of course, apparent that such freight systems might be a great aid in helping to police price agreements, but the systems themselves might still not be illegal. It should perhaps be pointed out that mere uniformity of price is not per se illegal. Even uniformity of prices arrived at by merely "following the leader" is not illegal, except where there is an agreement or understanding among competitors that they will do so.<sup>16</sup> This type of economic discrimination may properly be called geographical discrimination, because the amount of transportation service provided varies as between different customers. Geographical discrimination may be said to exist whenever sale prices, after the proper deduction of transportation costs (which are usually capable of being exactly determined), yield net prices at the factory or warehouse which differ because of the geographical location of buyers.<sup>17</sup> Such discrimination would cease to exist only when the net at the point of shipment received from all sales would be uniform at a given time. The fact that such practices often result in economic discriminations does not render them illegal under the Anti-Trust Laws.

The systems which are employed so as to manage or manipulate freight costs are numerous, the best

known being the so-called Pittsburgh-Plus plan<sup>18</sup> of the steel industry. The old Pittsburgh-Plus was a basing-point system by which steel products were sold at a price equal to the factory price plus the actual cost of freight from Pittsburgh to any destination. This freight charge from Pittsburgh was added even though the steel may not have been actually shipped from there, with the result that purchasers in Chicago paid freight from Pittsburgh, although the steel would probably be shipped from the neighboring mills at Gary, Indiana. Custom, central location, and superior competitive position were probably instrumental in the establishment of Pittsburgh as the steel basing-point, and the custom was solidified by agreement or understanding or for the sake of convenience, even after some of the more fundamental reasons for its establishment had ceased to exist.

The single basing-point system was one of the earliest methods of arriving at an artificial equalization of freight charges. The need for added basing-points due to competition from factories in new localities has led to the so-called multiple basing-point system, wherein prices are determined as of the basing point nearest to the purchaser. Other systems are to sell on a flat delivered price for a given area or for the entire country, or to divide the country into freight zones and sell products at a uniform delivered price for each zone. All of these systems have much the same purpose and in general operate with similar effect, although the economic situation in some industries seemed to make one system more adaptable than another.

Any discussion of the law of such freight systems requires a clear understanding of the economic background of the various practices.<sup>19</sup> The Supreme Court has repeatedly pointed out the necessity of clearly understanding the factual background in each anti-trust case.<sup>20</sup> For that reason the facts which are typical of a number of manufacturing industries will be set forth briefly.

The manufacturers in these industries, which in the main had grown up along the Atlantic seaboard, originally sold their products f. o. b. factory, charg-

<sup>13</sup> 38 STAT. 730 (1914), 15 U. S. C. A. § 13 (1927).

<sup>14</sup> 49 STAT. 1526, 15 U. S. C. A. § 13 (Supp. 1936).

<sup>15</sup> Fed. Trade Comm., *supra* note 1, at 286-288, where Secretary of the Interior Ickes lists some 48 industries where identical prices have been bid.

<sup>16</sup> *United States v. International Harvester Co.*, 274 U. S. 693 (1927). The court states: "And the fact that competitors may see proper, in the exercise of their own judgment, to follow the prices of another manufacturer, does not establish any suppression of competition or show any sinister domination." *Id.* at 709. Compare also *Pacific States Paper Trade Ass'n v. Federal Trade Comm.*, 4 F. (2d) 457 (C. C. A. 9th, 1925), modified, 273 U. S. 52 (1927).

<sup>17</sup> There are, of course, methods of arriving at a varying mill-net price other than the use of basing-point, freight-zone or delivered-price systems. Rebates, special freight allowances, or varying charges for freight pickups may be utilized so as to reach the same result. In general the legality of such rebates may be seriously doubted, especially under the Robinson-Patman Act. This subject will, however, not be considered herein.

<sup>18</sup> BERGLUND, *THE UNITED STATES STEEL CORPORATION* (1907) 164-167; KRENTZBERG, *The Passing of "Pittsburgh-Plus"* (1923) 17 AM. BANKERS A. J. 301. No detailed history of the origin of Pittsburgh-Plus is available; testimony before the Federal Trade Commission in *Matter of the United States Steel Corporation*, 8 FED. TRADE COMM. DEC. (1924) 1, indicates that it was in use in the sale of beams in 1830, but was not generally applied until after the formation of the United States Steel Corporation in 1901. By 1907 it was well established. BERGLUND, *loc. cit. supra*.

<sup>19</sup> For a good discussion of the general economic background of such freight systems see BURNS, *THE DECLINE OF COMPETITION* (1936) 280-371.

<sup>20</sup> *Appalachian Coals v. United States*, 288 U. S. 344, 360-361 (1933); *Sugar Institute v. United States*, 297 U. S. 553 (1936).



ing the actual freight to the destination if a delivered price were desired. By the early years of the twentieth century some companies had varied this method of arriving at a sale price, so that some large producers sold at a uniform delivered price in each state, while others sold on actual freight east of the Mississippi River and had adopted a modified basing-point system west of the Mississippi. During the World War the War Industries Board adopted a plan in placing orders for cantonment camps in order to insure an adequate supply of necessary materials. The Board also approved a zoning plan for certain industries, apparently with the thought that this was also necessary in order to insure an adequate supply of equipment. After the War and the depression of 1920, the practices of these industries were rapidly becoming more uniform in sales of competing products. Products which were smaller in size and weight, since they were not subject to such noticeable price variations when the actual freight was charged, generally used a close approximation to the actual freight rates from the points of production to those of consumption. The larger and heavier products, for which price variations due to freight costs were substantial, came to be sold by most producers on a basing-point or a freight-zone system.

The N. R. A. took no stand on the question of geographical discrimination in price.<sup>21</sup> As a result, a number of the codes provided for freight-zone, basing-point, or delivered-price systems.<sup>22</sup> In industries such as lumber, cement and insulated cable, where these practices had become an industry custom or practice before the codes, they were continued under them, and the practices became more standardized due to the existence of open price filing provisions in the codes. All of the N. R. A. codes had a pronounced effect upon their respective industries in crystallizing and unifying industry

practices, especially if they provided for open price filing.<sup>23</sup> The termination of the N. R. A. era, therefore, generally left industry practices stabilized.

The fact that most of the factories in many industries were located in New York, New Jersey, Pennsylvania and Connecticut seemed to aid those industries in arriving at freight systems. The freight zones, then, which these industries used, represented places which would have had approximately equal freight rates for goods shipped from New York City, and the freight-zone charges were approximations of actual freight costs. As factories were built in other sections of the country, freight-zone charges bore less relation to the actual costs of transportation.

When basing-point or freight-zone systems are employed, prices are generally quoted on a delivered-price basis. As a result, customers are not aware of how much of the final price is in fact a charge for freight.<sup>24</sup> Under these systems each manufacturer defrays at times a part of the actual transportation costs; at other times he may receive more than the actual freight costs if he is located near the consumer, and he charges the railroad freight from some recognized center of production or an average zone freight rate.

The trend in these industries, as in many others, has been to charge transportation cost on products which were light in weight and easy to ship at the actual freight rate, or else to use a flat delivered price for the entire country, since in either case competitors having similar factory prices would have comparable prices f. o. b. the customer's city. With heavier or bulkier items, since the differences in price would vary considerably with the distance from the customer's city, and the manufacturer nearest any given purchaser had such an advantage, competitors were forced to (1) abandon their efforts to compete; (2) lower their factory price so that that price plus freight was competitive; or (3) maintain the current factory price in appearances and absorb some or all of the freight charges. The manufacturers in many industries chose to employ the third alternative as long as they could realize a sufficient price on their product to pay the current costs of production plus transportation and a proportion of their current obligations on their fixed charges.

Manufacturers believed, and no doubt they arrived at their belief through sad experience, that it

<sup>21</sup> But see Richberg's remarks in *Hearings before Senate Committee on Interstate Commerce*, supra note 2, at 85-86: "It was our observation, and it was the opinion of the experts outside whose aid we obtained, that a basing-point system in which every producing area was a basing point would be a sound and economical system and good business practice. In other words, if there were a lot of mills within a small radius of 25 to 50 miles of Pittsburgh, as a business practice there was nothing wrong, and a great deal of convenience and benefit in having one basing point for that area. The evil in the basing-point system that seemed to me evident from the beginning, and which I think is partly historical growth and partly the result of the power of certain large interests in the industry, has been the denial of basing points to certain producing areas that ought to have basing points, and, as a result, the establishment of artificial basing points in nonproducing areas, giving a special advantage to the producing areas which did have basing points."

<sup>22</sup> Six codes provided for freight systems. They were: Fertilizer, Petroleum, Business Furniture, Storage and Filing Equipment, Salt, and Shovel Dragline and Crane. Five codes provided for basing-points. They were: Cast Iron Pipes, Iron and Steel, Lime, Refractories, and Reinforcing Materials. Thirty-three other codes provided for delivered prices of some kind. For further material see Consumer Advisory Board, Appendices to Memorandum to General Johnson, Feb. 19, 1934.

<sup>23</sup> Fed. Trade Comm., supra note 1, at 6.

<sup>24</sup> *Hearings before Senate Committee on Interstate Commerce*, supra note 2, at 322.

was virtually impossible to maintain one factory price for customers located close to a factory while maintaining progressively lower prices as the customer's situs approached the factory of an effective competitor. All customers on learning of the lower price would demand it and feel entitled to it. Delivered-price policies, basing-points and freight zones were all devised to enable the manufacturer to quote competitive prices in a district close to a competitor's factory without apparently reducing the factory prices.

Freight-zone policies had to be strictly adhered to or they would break down. If purchasers were allowed to have goods shipped to a point in one zone, and were then to pay the actual freight to another zone, the resultant price might be less than the delivered price to that zone, and the system would crumble of its own weight. As a result, sellers never quoted any price other than that of the customer's city, and a purchaser was not allowed to purchase f. o. b. manufacturer's mill except at a price equal to that which would have been charged at the ultimate destination. As a logical result, allowances were often not made to purchasers even though the goods were shipped by water or by other methods cheaper than the standard all-rail freight. Manufacturers seemed to feel that these delivered-price practices were necessary in order to maintain their system, since purchasers would always have taken the cheaper alternative and thus have made the manufacturer absorb a larger proportion of the freight charge on distant shipments, preventing him in some cases from equalizing the freight charges among all of his customers.

Economically, and presumably legally, identical problems are presented by flat delivered prices and by freight-zone adders, provided all the plants manufacturing the product are to be found in one single zone. The problems are identical because the price in the basic zone, where the factories are located, is a flat delivered price. As far as zones other than the basic one are concerned, since the freight zones have increasing freight charges, the resulting price more nearly equals the mill price plus the actual freight. Freight zones are, therefore, at least in part a recognition of the fact that freight costs may be competitive elements. Flat delivered-price systems and basing-point systems where the factory is not located at or near the basing-point represent a wider departure from the so-called pure competitive position, since the actual

freight in the price of the article has little to do with the actual cost of the freight.

The location of plants outside the basic zone which charge basic zone prices plus freight from that zone would seem to be economically unjustifiable unless costs of production are higher. Such manufacturers must consider, before lowering their prices, that these lower price levels would compel competing manufacturers to install branch factories which would overexpand the production in that area and might lead to an even smaller volume of business. The factory located nearer to certain customers has an advantage in the point of delivery time which is bound to give him a sufficient volume of business in a stabilized market.

The contention has been made that free competition can exist only if goods are sold at a price equivalent to the cost plus profit at the point of shipment plus the actual cost of freight to the destination, and that any other practices involve illegal discrimination.<sup>25</sup> Acceptance of this assumption would involve the prohibition of selling goods over any area, however small, at a flat delivered price. The argument that flat delivered prices for any given area prevent customers from freely competing with each other at the point of production has some merit, provided it is not carried to its logical but absurd extreme of requiring a department store to make varying delivery charges to customers living in the same urban area. When viewed on a national scale, it is apparent that such systems must necessarily operate in certain instances to discriminate against customers adjacent to the point of production (or near freight zone lines), since they may be required to buy goods and freight when they are interested solely in buying goods.<sup>26</sup> Those advocating this contention then point out that the result of this system is wasteful cross-freighting, in that it enables manufacturers to compete outside the spheres surrounding their factories. This evil of cross-freighting has certainly been overemphasized,<sup>27</sup> although its full extent would be ascertained

<sup>25</sup> This contention was made by Fetter, Commons, and Ripley as expert witnesses for the Federal Trade Commission in *Matter of the United States Steel Corp.*, 8 Fed. Trade Comm. Dec. (1924) 1.

<sup>26</sup> A logical extension of these arguments would require a seller to itemize all his costs, and would make it illegal to sell below the total even to meet competition in good faith.

<sup>27</sup> In *Fertilizer Industry Price Filing Study*, NRA Work Materials No. 67, at p. 33, it is stated that: "This very brief survey would indicate that cross-shipping between (freight) zones is not a very serious problem." In *Fed. Trade Comm., The Basing Point Formula and Cement Prices, 1932*, at 134 et seq., it is estimated that the cross-haul in the cement industry results in a waste of \$42,000,000. The study, however, is not very complete, and is more in the nature of an estimate. See also Richberg in *Hearings before Senate Committee on Interstate Commerce*, *supra* note 2, at 86: "I want to say as a general proposition, which I believe to be correct, that for the consuming public as a whole, I think our investigations developed that more freight was absorbed than excess freight was charged. That is, in order to meet competition in these competing areas the pro-

only if a thorough study were made. Opponents of such systems also charge that they artificially maintain plants that were established under economic conditions which no longer exist. As a result, therefore, uneconomic factories are maintained in order to protect past investments.<sup>28</sup> It is possible to agree, in the main, with these contentions insofar as they are demonstrations of pure economic theory, but it is another question when this economic theory is attempted to be read into the Anti-Trust Laws, since there are types of discrimination which are not subject to their operation. The basic legal question is whether or not the law sanctions only price policies which make proportional allowances for differences in the costs of transportation.

It has been found convenient to discuss the freight systems with reference to each of the Anti-Trust laws separately. The Sherman Act is considered first because of the fact that more cases bearing on this question are found under it, even though the Act is not primarily concerned with price discrimination.

### The Sherman Act

Since the Sherman Act<sup>29</sup> is primarily concerned with agreements, combinations, or conspiracies which restrain competition and trade, freight systems will be considered only when they are connected with such problems. A contract, agreement, combination, or conspiracy to arrive at a basing-point or other freight-destination system is a combination in restraint of trade and therefore illegal if it is unreasonably "restrictive of competitive conditions".<sup>30</sup> It would seem that under most circumstances an agreement to sell solely by certain freight systems would be an illegal restraint because of its effect on free and effective competition between the agreeing parties.

In several Sherman Act cases it has been charged that the collection and distribution by a trade asso-

ciation of information which aided the use of freight systems and other uniform practices was an illegal restraint of trade. In the *Maple Flooring*<sup>31</sup> and *Cement*<sup>32</sup> cases, the Supreme Court held that the mere existence of basing-point systems and other uniform practices, in the absence of an agreement, express or implied, is not a violation of the Sherman Act. The Government brought the actions under the Act, alleging and proving many uniform practices among the manufacturers involved. Since the Clayton Act was not involved, the question of price discrimination by virtue of the basing-points was little stressed. The Supreme Court, however, did attempt to justify the basing-point practices and seemed willing to risk the danger of the establishment of uniform price agreements through the mechanism of basing-point systems. In view of the Court's language it is difficult to believe that it would condemn those systems under the old Section 2 of the Clayton Act.<sup>33</sup> The Court stressed the fact that it was the custom of the trade to quote a delivered price and that purchasers would usually buy on no other basis. The Court described the basing-point system in the *Maple Flooring* case as follows:

"Through the agency of the Secretary of the Association a booklet was compiled and distributed to members of the Association showing freight rates from Cadillac, Michigan, to numerous points throughout the United States to which the finished flooring is shipped by members of the Association. It appears from the evidence to have been the usual practice in the maple flooring trade, to quote flooring at a delivered price and that purchasers of flooring usually will not buy on any other basis. The evidence, however, is undisputed that the defendants quote and sell on an f. o. b. mill basis whenever a purchaser so requests. It also appears that the mills of most of the members of the Association are located in small towns in Michigan and Wisconsin and that the average freight rates from these principal producing points in Michigan and Wisconsin to the principal centers of consumption in the United States are approximately the same as the freight rate from Cadillac, Michigan, to the same centers of consumption. There is abundant evidence that there were delays in securing quotations of freight rates from the local agents of carriers in towns in which the factories of defendants are located, which seriously interfered with prompt quotations of delivered prices to customers; that the ac-

ducer has to absorb a great deal of freight; . . . as to the industry as a whole, in relation to its customers, we had one investigation made which showed a large excess in favor of the customers. That is, there was more freight absorbed than excess freight charged. So that I think, from the standpoint of the industry in relation to consumers as a group, you cannot say that the consumers as a group have been forced to pay more freight than they have been saved.

<sup>28</sup> *Id.* at 85-86.

<sup>29</sup> 26 STAT. 209 (1890), 15 U. S. C. A. § 1 (1927).

<sup>30</sup> The "rule of reason" doctrine applies the standard that not every combination in restraint of trade is unlawful, but only those which were unreasonable or undue either because of their inherent nature or effect, or because of their evident purpose. *Standard Oil v. United States*, 221 U. S. 1 (1911); *United States v. American Tobacco Co.*, 221 U. S. 106 (1911); *United States v. Terminal R. R. Ass'n*, 224 U. S. 383 (1912); *United States v. Union Pac. R. R.*, 226 U. S. 61 (1912). Thus a burden is placed upon the Government to prove that the restraint of trade must be one involving an effective control of a substantial portion of an industry or it will fail in its prosecution. *Standard Oil v. United States*, 283 U. S. 163 (1931); *Appalachian Coals v. United States*, 288 U. S. 344 (1933).

<sup>31</sup> *Maple Flooring Mfrs. Ass'n v. United States*, 268 U. S. 563 (1925).

<sup>32</sup> *Cement Mfrs. Protective Ass'n v. United States*, 268 U. S. 583 (1925).

<sup>33</sup> 38 STAT. 730 (1914), 15 U. S. C. A. § 13 (1927).



tual aggregate difference between local freight rates for most of defendant's mills and the rate appearing in defendant's freight-rate book based on rates at Cadillac, Michigan, were so small as to be only nominal, and that the freight-rate book served a useful and legitimate purpose in enabling members to quote promptly a delivered price on their product by adding to their mill price a previously calculated freight-rate which approximated closely to the actual rate from their own mill towns."<sup>34</sup>

In the *Maple Flooring* case there was a single basing-point at Cadillac, Michigan, and all but two members of the Association were located in Michigan or Wisconsin (one was in Illinois and the other in New York). On shipments to any distance the discrepancies between freight from the mill and freight from Cadillac were small. Within and near the region in which the mills were located the discrepancies would react against all the manufacturers fairly equally.

One significant statement in the quotation above must be emphasized before passing on to the Court's discussion of the legal effects of such a practice. This statement sets forth the fact that the manufacturers involved would quote a price f. o. b. mill whenever a purchaser requested such a quotation. Although the Court does not specially stress this fact in the opinion, it may readily be seen that such a practice would be an effective check on producers to make the freight rates quoted from the basing-point approximately the same as the actual freight rate from the place of manufacture. Without such a practical check on the difference between actual freight rates and freight rates from a basing-point the Court might consider any scheme in a much less favorable light.

In the *Maple Flooring* case the Government based its criticism of the use of the freight-rate book on the ground that, although the Maple Flooring Association did not publish delivered prices in the freight book, the publishing of the freight-rate book and the circulation of tables of estimated cost of flooring effectively enabled the members of the Association to arrive at a uniform delivered price by adding to the estimated cost the circulated freight rate. It was argued that this was merely a device so that a fixed minimum price would be maintained. The Court found that, although the data as to the available cost of flooring, together with the calculated freight rate, could readily be made the basis for a price-fixing agreement, nevertheless, there was

no violation of the Sherman Act since it was not established that the defendants had entered into an agreement to use this material in that manner. It pointed out that the record presented solely the question of whether the use of this material would necessarily result in an unreasonable restraint of interstate commerce. In the absence of a purpose to monopolize or the compulsion that results from a combination or agreement, it felt that an individual could exercise great freedom in his activities without causing a restraint of trade. It was held, therefore, that no restraint had been proved in the *Maple Flooring* case.

The *Cement* case similarly involved the activities of a trade association which compiled and distributed freight-rate books among its members. The members of the Cement Association were all located in New York, New Jersey, Pennsylvania, Maryland and Virginia, in which area it was customary to employ four basing-points, Universal, Pa., Lehigh Valley, Pa., Hudson, N. Y., and Fordwick, Va. The freight-rate books gave the rate of freight from these four basing-points to numerous points of delivery within the territorial area served by the members of the Association. These rates were compiled from official tariffs and translated from a rate per ton into a rate per barrel of cement so as to be in more convenient form. The Court found that prior to the existence of the Association similar books were prepared by individual manufacturers at a greatly increased cost and with a greater possibility of error than existed when compiled on behalf of all of the individual manufacturers by the Association. In its opinion it stressed the fact that it was the custom in the cement trade to sell cement on a "one price" or a delivered-price basis even prior to the organization of the defendant Association, and that in every instance the basing-points were points of actual shipment from which the larger proportion of the cement in a given locality was actually shipped. The Court also found that these freight-rate books were a great convenience in quoting prices accurately and promptly.

The system in and of itself was held not to be a violation of the Sherman Act on the same grounds as were employed in the *Maple Flooring* case. The Court also discussed and apparently approved the use of the basing-point system of pricing cement. One of the reasons for such a justification was the history of freight rates applied to competing mills in the Lehigh Valley. There the Interstate Commerce Commission established a blanket rate so that

<sup>34</sup> 268 U. S. 563, 570-571 (1925).

freight charges would be identical for competing mills. The multiple basing-point system of the cement industry merely amounted to each individual company's equalizing the freight rate applicable to competing mills in a manner similar to the Interstate Commerce Commission's ruling. In the absence of agreement establishing or maintaining such a system, it represented an attempt by each individual to meet competition.

In the *Cement* case, the manufacturers may or may not have been willing to sell on an f. o. b. mill price. The opinion makes no mention of what the practice was. The petition, however, sets forth that: "Defendant corporations, without exception, make all sales f. o. b. point of delivery. . . ." <sup>35</sup> The decree of the District Court enjoined the manufacturers from agreeing to sell exclusively f. o. b. point of delivery. This decree was set aside by the higher court. This would lead one to believe that the Supreme Court did not consider sales f. o. b. manufacturing point a very decisive factor. Of course, this fact might be very influential, and it must be remembered that the Court did not in reality specifically pass on the question.

In the *Maple Flooring* and the *Cement* cases the Supreme Court went so far as to approve specially the gathering and dissemination of information with reference to the transportation costs from the chief points of production, although such information certainly tended to maintain the industry custom of using basing-points, on the ground that it was an aid to quick and accurate price quotation. <sup>36</sup>

The freight problem in the recent *Sugar Institute* case <sup>37</sup> was complex in form, <sup>38</sup> and the District Court found an agreement to adhere to a delivered-price system. Although the defendants waived their assignment of error on this point in order to reduce the issues, the Supreme Court stated that the deliv-

ered prices were not arrived at pursuant to an agreement but that the defendants had agreed to maintain the delivered-price system.

The Court then found that this "concerted maintenance of delivered prices constituted undue and unreasonable restraint of trade." <sup>39</sup>

In two other Supreme Court cases there were systems involving freight zones or basing-points. In *American Column & Lumber Co. v. United States*, <sup>40</sup> although the members of the Hardwood Lumber Association used a basing-point system, <sup>41</sup> neither the briefs nor the opinion mentioned it. In *United States v. American Linseed Oil Co.*, <sup>42</sup> the record disclosed the existence of a zoning system substantially similar to a basing-point system, and Solicitor General Beck laid considerable stress upon its obviously artificial character. <sup>43</sup> The Court found an actual agreement in restraint of trade so that it did not have to consider freight zoning per se. It did, however, make a passing reference to the existence of a freight-rate zone system. <sup>44</sup>

Consent decrees have been entered in two cases involving destination freight systems. *United States v. Bolt, Nut & Rivet Manufacturers Ass'n.* <sup>45</sup> involved an agreement to use arbitrary basing-points for the quotation of freight rates. The consent decree enjoined the agreement, <sup>46</sup> and also enjoined "individually . . . charging on account of such freight rates as costs of transportation any amount at substantial variance from the actual cost of such transportation where such charge or charges will result in an unlawful discrimination in price". A consent decree was also entered in the case of *United States v. Corn Derivatives Institute*. <sup>47</sup> The petition charged that "The defendants . . . agreed to adopt and have concertedly adopted Chicago, Illinois, as an arbitrary freight basing-point from which they compute and charge freight in addition to the quoted

<sup>35</sup> Decree of District Court, par. 9 (c).

<sup>36</sup> The Court in the *Cement* case recognized that such basing-point systems are an aid to quick, accurate price quotations, when it stated: "Prompt quotation of a delivered price therefore involves the ability to carry out promptly the mechanical process of adding to the mill price the cost of transportation to the point of delivery. Lists of freight rates, in convenient and readily available form, are therefore necessary adjuncts to the quotation of delivery prices for cement." 268 U. S. 588, 598 (1925).

The Federal Trade Commission, however, arrives at the astounding conclusion that delivered prices do not simplify the calculation of freight charges. Thus it states: "The fact that the industry will sell only on a delivery price basis leads to interminable complications in the calculation of delivery charges." Fed. Trade Comm., *supra* note 1, at 24.

<sup>37</sup> *Sugar Institute v. United States*, 297 U. S. 553 (1936).

<sup>38</sup> References to the freight problem (including an agreement not to make allowances for shipping by differential routes) are to be found in the pleadings and decree of the *Sugar Institute* case at the following places: Petition, pars. 20-33, pp. 10-14; Answer, pars. 19-32; Government Brief in District Court, pp. 239-293; Defendant's Brief on the facts in District Court, pp. 202-238; Government Reply Brief in District Court, pp. 182-189; Findings in District Court, pars. 87-131, pp. 38-58, especially pars. 105-113, pp. 45-50; Order in District Court, par. IV, 18-20, pp. 5-6; Defendant's Brief in Supreme Court, pp. 224-246; Government Brief in Supreme Court, pp. 124-171, especially at pp. 139-159; Defendant's Reply Brief in Supreme Court, pp. 90-94.

<sup>39</sup> 297 U. S. 553, 590 (1936).

<sup>40</sup> 257 U. S. 377 (1921).

<sup>41</sup> See Transcript of Record on appeal to the Supreme Court, pp. 33-40.

<sup>42</sup> 262 U. S. 371 (1923).

<sup>43</sup> See Brief for United States, pp. 31 et seq., 142. Note also the references in Brief for Ankeny Linseed Co., pp. 20, 36, 56, and Brief for Am. Linseed Oil Co., p. 12.

<sup>44</sup> "The United States was divided into eight zones for price quoting; and it was stipulated that each member should quote a basic price for zone number one and should add thereto one, two, four, six, seven, eight and eleven cents respectively for the others." *United States v. American Linseed Oil Co.*, 262 U. S. 371, 386 (1923).

<sup>45</sup> District Court for the Southern District of New York, petition in Equity No. 53-383. The decree was entered March 17, 1931.

<sup>46</sup> This decree further provides with reference to the agreement covering freight:

"That the defendants, . . . be and they hereby are perpetually enjoined, restrained and prohibited: (f) From agreeing or attempting to establish or maintain, or concertedly establishing or maintaining, the basing point system which includes Pittsburgh, Pa., Cleveland, Ohio, Birmingham, Ala., and Chicago, Ill., as the only base points . . . ; (j) From agreeing . . . to refuse or concertedly refusing or concertedly failing to sell or quote prices . . . f. o. b. point of manufacture when requested so to do by the purchaser or prospective purchaser thereof; . . ."

<sup>47</sup> District Court of Illinois, petition filed and decree entered April 6, 1932.



prices, regardless of the point from which Members actually ship Products."<sup>48</sup> The consent decree is directed solely at an agreement, combination, or conspiracy to use a delivered-price system.<sup>49</sup>

In *Standard Sanitary Manufacturing Co. v. United States*<sup>50</sup> the defendants were enjoined from continuing their agreements to monopolize and restrain trade. In that case one of the elements of the agreement was the division of the United States into eleven freight zones for pricing purposes.<sup>51</sup> In a similar equity action against the Quaker Oats Company an injunction was not secured because of the insufficiency of the proof.<sup>52</sup>

There can be little question that in most instances the courts would hold that any agreement to use a freight destination system was a violation of the

Sherman Act. The agency contract of the Appalachian Coal Company, which was sustained by the Supreme Court,<sup>53</sup> apparently contemplated that the agency would fix a uniform delivered price for the products of the one hundred and thirty-six individual coal producers so that the competition between individual members would not rest on geographical position. The plan, however, contemplated competition between the grade of coal sold by the agency.<sup>54</sup> Basing-point and freight-zone price systems do not violate the Sherman Act unless they are imposed or maintained as the result of an agreement, combination, or conspiracy which unduly restrains trade or tends to create a monopoly.

### The Clayton Act

There have been no cases in the federal courts where the precise question was whether such freight systems amounted to discriminations in violation of the old Section 2 of the Clayton Act.<sup>55</sup> The complaint in *In the Matter of United Steel Corporation*<sup>56</sup> charged violation of both the old Section 2 of that Act and of Section 5 of the Federal Trade Commission Act.<sup>57</sup> In view of the Robinson-Patman Act,<sup>58</sup> it will be necessary to deal first with cases arising under the old section, and then with the question as to whether the Robinson-Patman Act broadens the law against discriminations so as to cover this question.

The *Maple Flooring* and *Cement* cases, which were treated at length under the discussion of the Sherman Act, give some insight into the problem of the reaction of the courts to the question of the validity of basing-point systems under the Clayton Act. In view of the Supreme Court's language it is difficult to believe that such systems would be held to be discriminatory. In both cases the Court went to considerable length to justify the practices of supplying information which would be useful only in the operation of basing-points in these industries and points out the logical basis for the existence of such systems. The reasoning applied by the Supreme Court in these cases will apply equally well to freight-zone and delivered-price systems. Thus the

<sup>48</sup> At par. 31. It is further alleged that: "In accordance with a mutual understanding among defendants, each Member has refused to quote prices for, or to make sales of, products i. o. b. factory or on any basis other than f. o. b. Chicago."

<sup>49</sup> Par. 4 of the consent decree provides:

"That the defendants . . . be, and they hereby are, permanently and perpetually enjoined and restrained

(b) From arranging, agreeing, entering into any understanding or otherwise 'acting in concert'

10. To refuse to quote prices for products f. o. b. point of manufacture, or to refuse to sell products at prices to apply at the point of manufacture."

<sup>50</sup> 226 U. S. 20 (1912), *aff'd* 191 Fed. 172 (D. Md. 1911). The zoning system aimed at in this case was primarily a dividing of the country into exclusive selling territories. The petition in equity contained the following allegations of the existence of a freight zoning system in par. 3:

"The defendants have divided the United States into certain territorial or geographical zones, and by their system of contracts are restricting each jobber in making sales to the zone in which that jobber is located; in other words, the arrangement is such that no jobber is allowed to sell outside his zone."

In the criminal actions of *United States v. Standard Sanitary Mfg. Co.*, Indictments Nos. 5163 and 5164 (E. D. Mich.), both filed December 6, 1910, there were allegations to the effect that the defendants had employed freight zones in order to maintain resale prices. The allegations are found in the First Indictment (No. 5163) in the fourth count, at page 71, and state that the defendants agreed that: "the said United States was to be divided by the said defendants into eleven territorial zones, the exact details of which said territorial zones are to the grand jurors as yet unknown, except that all of the said corporations, partnerships and individuals who were situated in any one zone were to resell at the same prices in said zone said sanitary enameled iron ware in said commerce." There are similar allegations in the Second Indictment (No. 5164) in count 5, at p. 54, and count 6, at p. 77. The criminal actions against the Standard Sanitary Mfg. Co. came before the courts in 187 Fed. 229 (E. D. Mich. 1911). The question involved was whether or not the defendants had secured immunity by testifying in the equity case in Maryland. After a trial lasting 6 weeks, the jury reported a disagreement on March 14, 1912. At a retrial in February, 1913, the defendants were found guilty and fines aggregating \$51,007. were imposed.

<sup>51</sup> Facts with reference to the zoning systems in *Standard Sanitary Mfg. Co. v. United States*, 226 U. S. 20 (1912), are set forth in the Government's Brief before the Supreme Court, p. 31 *et seq.*

<sup>52</sup> The case of *United States v. Quaker Oats Co.*, 232 Fed. 499 (N. D. Ill. 1916), involved an equity petition filed by the Government on June 11, 1913. The petition alleged a combination to restrain and monopolize interstate commerce in oatmeal and by-products therefrom. The petition itself does not set forth the existence of a delivered price system, but the brief on behalf of the Quaker Oats Co. attempts to justify the existence of such a system on the grounds that it "did not put the wholesaler at a disadvantage in competing with some other wholesaler at a different point in common territory who, by reason of a somewhat lower freight rate, might resell goods at a lower price from the same mill if this arrangement were not in existence." Petition, at p. 71. The practice of the Quaker Oats Co., and at least one of its competitors, involved the maintenance of a uniform freight charge from their points of production to a group of cities, although the actual freight rates to these cities were not uniform. The cities involved were supposed to be places from which wholesale houses were competing against each other for sales in a common territory.

The case was argued before the Circuit Judges in March 1916, and decided adversely to the Government. An appeal to the Supreme Court was dismissed upon the Government's own motion. 253 U. S. 499 (1920).

The case of *United States v. Corn Products Refining Co.*, cited and discussed *infra* page 704, was held to involve a combination in restraint of trade amounting to a monopoly, but the zone system in question was found not to discriminate between purchasers.

<sup>53</sup> *Appalachian Coals v. United States*, 288 U. S. 344 (1933).

<sup>54</sup> The basic agency agreement provided that the price of coal would be fixed by the corporate selling agent (Finding of Fact No. 48a). See Brief for Appellant in the Supreme Court, pp. 35-37.

<sup>55</sup> 38 STAT. 730 (1914), 15 U. S. C. A. § 13 (1927).

<sup>56</sup> 8 FED. TRADE COMM. DEC. (1924) 1. This case will be discussed *infra* under the treatment of the Federal Trade Commission Act, since it never reached the courts.

<sup>57</sup> 38 STAT. 717 (1914), 15 U. S. C. A. § 45 (1927). The pertinent portions provide: "That unfair methods of competition in commerce are hereby declared unlawful . . ."

<sup>58</sup> *Supra* note 13.

case of *United States v. Corn Products Refining Co.*<sup>59</sup> involved a petition in equity to enjoin a combination in restraint of trade. The court, while entering a decree dissolving the Corn Products Refining Company on the ground that the combination amounted to a monopoly, discussed the contention that the activities of the defendants had resulted in a discrimination in prices. Judge Learned Hand held that a zone system if equitably organized need not result in an actual discrimination in price although it might theoretically appear to do so, saying:

"I can find no evidence of the misuse of the so-called 'zone system', a system which in itself is entirely capable of equitable application. . . . In general, I find the evidence too scanty to justify any finding that the defendants have attempted a genuine price discrimination, though they unquestionably had it in their power to do so."<sup>60</sup>

There could be little doubt but that if proceedings had been brought under the old Section 2 of the Clayton Act, such freight practices would have been justified in most cases by the proviso allowing a seller to meet competition in good faith.<sup>61</sup>

The Congressional debates on the Clayton Act reveal no references which could be interpreted as showing an intention to outlaw freight destination practices. The purpose of Section 2 seemed to be to prevent sales below cost or sales at a lower price in the community of their rivals than at other points throughout the country, in order to drive out competitors and thus to achieve a monopoly position. This was well expressed by Representative Floyd of Arkansas in the Congressional debates.<sup>62</sup>

As further evidence of this fact more comprehensive provisions for Section 2 were suggested as amendments; thus "discriminate in price" was proposed to be amended to read "discriminate in price, terms or otherwise", in order to broaden the opera-

tion of the section.<sup>63</sup> Another amendment of Section 2 was proposed by Senator Clapp of Minnesota,<sup>64</sup> providing that anyone

"selling a commodity at a lower rate in one section, community, or locality than is charged for such commodity by said party in any other section, community or locality, after making due allowance for the difference, if any, in the actual cost of transportation from the point of production if a raw product, or from the point of manufacture if a manufactured produce (product), shall be deemed guilty of unfair discrimination . . ." (Italics added)

The defeat of this amendment to Section 2 is a sound ground for asserting that Congress did not intend to go as far in the statute enacted as the proposed amendment went.<sup>65</sup> It should also be pointed out that congressmen repeatedly referred to the practice of the Standard Oil Company and other large companies in selling at a uniform price for an entire State, and yet they never once suggested that Section 2 would operate to change this situation.

The only statement made in the Congressional debates that would lead one to conclude that freight destination systems were not to be protected, even excluding the right to meet competition, is found in one remark of Representative Helvering of Kansas,<sup>66</sup> which is explainable on other grounds: ". . . this practice will be absolutely prohibited, for the same price will have to govern in every State, plus, of course, the difference in cost of transportation." It is believed that this statement was not intended to eliminate the possibility of freight destination practices, but rather to explain that prices might vary to the extent of actual transportation charges.

The wording of the Clayton Act in the old Section 2 itself lends support to an argument that there is actual "discrimination" when customers are given prices which make allowance for difference in shipping costs. Section 2 acknowledges legal "discrimination" to include ". . . discrimination in price between purchasers of commodities . . . that makes only due allowance for difference in the cost of selling or transportation . . ."<sup>67</sup> The wording is not conclusive, however, in view of the fact that the competitive evil of discrimination as originally envisaged by the Clayton Act lies in the different positions in which customers are placed in their com-

<sup>59</sup> 234 Fed. 964 (S. D. N. Y. 1916). The petition in that case does not specifically involve a charge of geographical price discrimination, but merely alleges the existence of an illegal combination. It then proceeds to specify certain alleged unlawful and unfair acts of the defendants. Even in this specification no mention is made of the fact that zones amounted to unfair competition.

<sup>60</sup> *Id.* at 994.

<sup>61</sup> The proviso states: "Provided, That nothing herein contained shall prevent . . . discrimination in price in the same or different communities made in good faith to meet competition." 38 STAT. 730 (1914), 15 U. S. C. A. § 13 (1927).

<sup>62</sup> "The provision is in plain language and seeks to prevent dealers from lowering the price of commodities in different sections and communities by unfair discrimination with the intent and purpose to destroy, ruin, or injure the business of a competitor. That is a recognized evil extensively practiced by great and powerful concerns to drive out competition and destroy competitors, which results to the serious detriment of the general public, and has been demonstrated to be a most effective means in acquiring a monopoly. It does that and nothing more, and is not intended to do anything more." 51 CONG. REC. 9158 (1914). See also *id.* at 9260, 9263-9264, 9552, 9595, 14206-14209, 14226, 14250.

<sup>63</sup> *Id.* at 9265. Note the amendment by Representative Morgan of Oklahoma, which is set forth in full together with comments thereon.

<sup>64</sup> *Id.* at 14252-14253, 14597-14598.

<sup>65</sup> *Id.* at 14597.

<sup>66</sup> *Id.* at 9184.

<sup>67</sup> 38 STAT. 730 (1914), 15 U. S. C. A. § 13 (1927).

petition with other customers, by the differing treatment accorded them in prices, terms and allowances. Discrimination did not depend upon the difference in net profit or net revenue which the seller realized from his various customers. The result of the trend of the arguments against freight systems is that the equalization of the profit to the seller is essential to the removal of discrimination between customers. Viewed from that angle their argument is not a very compelling one.<sup>68</sup> This real discrimination which exists today under freight destination price systems is based upon the fact that, as a result of a delivered-price system, customers located at or near the place of manufacture or shipment (or in that part of a freight zone nearest to the point of manufacture or the basic zone) are deprived of the advantage of such location and often are required to contribute to the cost of transportation of more distant customers, even though such customers frequently are in competition with each other.

Although such freight systems must of necessity result in discriminations when considered from the point of view of pure economic theory, yet the old Section 2 of the Clayton Act was aimed at discriminations unreasonable in extent which tended to create a monopoly. It was certainly not directed at old practices which were reasonably necessary to the carrying on of efficient business and which did not tend to create a monopoly, or to practices which were adopted in good faith to meet competition. It is easily conceivable that some freight systems might be of such an artificial and unreasonable nature that they could not be sustained on any ground except that they were necessary to meet competition.

### The Robinson-Patman Act

Heretofore, one of the chief bases for justifying delivered-price systems has been found in that part of the old Clayton Act which is now repealed,<sup>69</sup> at least in its old form, and which specifically recognized the right to quote different prices in good faith for the purpose of meeting competition. The Robinson-Patman Act<sup>70</sup> now raises a question as to whether such destination prices are permissible or

whether they constitute unlawful price discriminations.<sup>71</sup>

The Robinson-Patman Act as finally approved contained no special reference to the freight situation. It is significant, however, that a number of the proposed amendments to the old Clayton Act specifically covered this controversial point.<sup>72</sup> Thus the Patman Bill, as reported by the House, provided "That the word 'price', as used in this Section 2, shall be construed to mean the amount received by the vendor after deducting actual freight or cost of other transportation, if any, allowed or defrayed by the vendor."<sup>73</sup> The Utterback Bill contained similar language.<sup>74</sup> It is apparent that such a provision would probably eliminate this problem provided that a person could not in good faith meet competition, since no discriminations in price were allowed by virtue of the other provisions of the Act.<sup>75</sup> There can be no doubt that such was in fact the intent of proponents of these provisions.<sup>76</sup>

Congress deliberately rejected the attempt to prohibit systems of selling upon a delivered-price basis either throughout the entire United States or by zones. The proposal provoked considerable opposition,<sup>77</sup> especially among farm leaders as well as from a number of industries. The House Judiciary Committee eliminated this provision with the statement

<sup>68</sup> Many trade associations whose members manufacture and sell diverse types of products have compiled questions with reference to the effect of the new section 2 of the Clayton Act. Considerable interest was shown in the question of whether the new law affected the delivery charges. Sellers wanted to know whether the Act required uniform freight terms, or whether it required selling on an f. o. b. mill basis. The question most often asked was: "Is selling on a delivered price basis to customers located at unequal distances from the point of supply prohibited?"

<sup>69</sup> It is difficult to ascertain the origin of the Wheeler and Utterback Anti-Basing-Point Bills, *supra* note 2, but they seem to express ideas that have long been promoted by the Federal Trade Commission. They may have developed as the result of the controversy between NKA and the Federal Trade Commission in regard to the operation of the code for the Iron and Steel industry (see Federal Trade Commission report on this subject, *supra* note 8) during which time the Commission strenuously attacked the basing-point system in the steel industry. Considerable impetus was probably given to these bills by the activities of municipal purchasing agents, and such officials as Secretary Ickes. See N. Y. Times, April 10, 1936, p. 9, col. 2, as to Boulder Dam bids on wire and cable. It is insignificant that the items bid on in this incident were patented products covered by license agreements which compelled the quotation of a uniform price, since the item represents the present attitude of some government officials.

<sup>70</sup> H. R. 8442, 74th Cong., 2d Sess. (1936), as reported March 31, 1936, p. 7, lines 20-23. This definition of price was eliminated on the floor of the House, 80 Cong. Rec. 8223-8224 (1936).

<sup>71</sup> H. R. 10486, 74th Cong., 2d Sess., introduced January 22, 1936, 80 Cong. Rec. 2889 (1936).

<sup>72</sup> It is apparent that the purpose of the provision was to prevent a company from quoting a destination price to one customer which, after deducting freight rate, would result in a net price to the seller which was different from the net price received in a sale to a different buyer. It should be noted, however, that one of the items of proof which would have been required under this bill was that discrimination must be shown "substantially to lessen competition or tend to create a monopoly in any line of commerce, or to injure, destroy, or prevent competition with any person who either grants or receives the benefit of such discrimination, or with customers of either of them." H. R. Rep. No. 2287, 74th Cong., 2d Sess. (1936) 14.

<sup>73</sup> The report of the House Judiciary Committee on the Patman Bill, H. R. Rep. No. 2287, 74th Cong., 2d Sess. (1936), at p. 14, states with reference to this provision: "In effect, this provision of the bill is designed to put an end to price discrimination through the medium of the basing-point or delivered price system of selling commodities. It will require the use of the f. o. b. method of sale."

<sup>74</sup> Statement by Citron, 80 Cong. Rec. 8223-8224 (1936); see also *id.* at 8122-8123 and 8126-8127.

<sup>69</sup> *American Can Co. v. Ladoga Canning Co.*, 44 F. (2d) 763 (C. C. A. 7th, 1930), cert. denied, 282 U. S. 899 (1931), held that Section 2 of the Clayton Act applied to a discrimination which gave to one consumer a price advantage in a material factor which was not given to competing consumers. See also *Van Camp & Sons Co. v. American Can Co.*, 278 U. S. 245 (1929).

<sup>70</sup> 38 STAT. 730 (1914), 15 U. S. C. A. § 13 (1927). See *supra* note 60 for the pertinent proviso.

<sup>71</sup> *Supra* note 13.



that otherwise the Act could not be passed;<sup>78</sup> and a number of Congressional leaders expressed their opinion that the new law did not affect the basing-point system.<sup>79</sup> In submitting the conference report on the Robinson-Patman Bill, Representative Utterback was careful to define "discrimination" so as to avoid much, if not all, of the delivered-price controversy. He said,

"In its meaning as simple English a discrimination is more than a mere difference. Underlying the meaning of the word is the idea that some relationship exists between the parties to the discrimination which entitles them to equal treatment, whereby the difference granted to one casts some burden or disadvantage upon the other. . . . But where no such relationship exists, where the goods are sold in different markets and the conditions affecting those markets set different price levels for them, the sale to different customers at those different prices would not constitute a discrimination within the meaning of this bill."<sup>80</sup>

When the delivered-price provision of the Patman Bill was eliminated, in order to assure the passage of the balance of the bill, a new one was introduced, the Wheeler Anti-Basing-Point Bill,<sup>81</sup> which was intended to cover completely the entire subject of freight allowances. As a result of this legislative history it may be argued with some considerable degree of effect that the amended Clayton Act was not intended to broaden the operation of the old Section 2 on freight practices, and that the law does not require the measurement of price discrimination in terms of "mill net" or "factory" prices. "Price" will probably be construed as the amount paid by the buyer. An examination of the statute, however, reveals that without this legislative history a court might have listened more attentively to the argument that there was discrimination, in view of the apparent elimination of the general proviso which allowed a seller to meet competition in good faith.

In view of the proviso in Section 2 (b)<sup>82</sup> allowing a seller to meet an equally low price of a competitor, it has been suggested that the amended statute would

require manufacturers to sell on some sort of a basing-point system according to which the factory (or warehouse) of each competitor could be used as a basing-point with the competitor's price at his factory being the basing-point price. Such an interpretation depends on the statute allowing a seller to discriminate in price among purchasers from him, provided he is meeting an actual price quoted by a competitor.<sup>83</sup>

It is felt that in view of the fact that Congress eliminated a specific provision covering freight applications before passing the amended Clayton Act, and also in view of the attempt to cover this subject by a separate specific bill, a court would probably hold that such freight systems were not discriminatory per se, but that each case must stand on the particular facts involved in any given industry.

The Federal Trade Commission has recently issued a complaint against the "Birmingham-Plus" system employed by certain cast iron pipe manufacturers.<sup>84</sup> One of the counts in this complaint charges that an agreement to utilize and the utilization of a basing-point system amounts to a violation of the Robinson-Patman Act. We may expect, after a decision of this case, that the question of whether or not a basing-point system is illegal under the Robinson-Patman Act will be determined.

It should be pointed out that if it were held that the Robinson-Patman Act were applicable to destination freight systems, they would probably not be illegal per se, but a question of fact would arise in each specific case upon the question of whether the buyers were in competition with other buyers from, or competitors of, the seller. The discrimination would, therefore, be actionable only when some one is hurt in his business or, in the language of the Act, "where the effect of such discrimination may be substantially to lessen competition or tend to create a monopoly in any line of commerce, or to injure, destroy, or prevent competition with any person who

<sup>78</sup> Statements by Boileau, 80 Cong. Rec. 8122-8123 (1936), and id. at 7760.

<sup>79</sup> Statement by Borah, 80 Cong. Rec. 9903-9904 (1936), and id. at 8223-8224, 8122-8123, and 8126-8127.

<sup>80</sup> 80 Cong. Rec. 9416 (1936). There are other expressions to the same effect at id. 8223-8242.

<sup>81</sup> *Supra* note 2.

<sup>82</sup> The pertinent proviso is:

"Provided, however, That nothing herein contained shall prevent a seller rebutting the *prima facie* case thus made by showing that his lower price or the furnishing of services or facilities to any purchaser or purchasers was made in good faith to meet an equally low price of a competitor, or the services or facilities furnished by a competitor." 49 STAT. 1526, 15 U. S. C. A. § 13 (b) (Supp. 1936).

<sup>83</sup> There was discussion in both houses as to the effect of the new proviso compared with the old. See Senator Van Nuys' remarks, 80 Cong. Rec. 9903-9904 (1936), and Representative Utterback's, id. at 9418. They both maintain that the present proviso is a rule of evidence, and does not affect the substantive provisions of the act. This view is difficult to understand, and will have to be clarified by the courts. See also Federal Trade Comm., Data in Connection with the Robinson-Patman Act (1936) 22-24.

<sup>84</sup> In Matter of Cast Iron Pipe Association, Fed. Trade Comm. Docket No. 3091 (complaint issued March 26, 1937), the complaint in two counts charges, first, that the respondents agreed to employ a "single basing-point system" of pricing which was operated on a Birmingham-Plus basis; and second, that this agreement and the practices pursuant thereto resulted in price discrimination under the Robinson-Patman Act.

The theory on which the "Birmingham-Plus" system is attacked is set forth in Count II, par. 6, where it is alleged that delivered prices are not the actual prices received by respondents. This complaint is, therefore, based on the theory that in order to comply with the Robinson-Patman Act each manufacturer must inaugurate a pricing system with a single base price at his point of manufacture (or at his warehouses), to which would be added the actual freight to the destination of each customer.

either grants or knowingly receives the benefit of such discrimination, or with customers of either of them".<sup>85</sup> If no person or no line of competition is hurt, then the act is not illegal. Of course, where buyers are in different markets it is not likely that anyone will be injured by any such freight price systems. In addition, a seller may still meet competition at destination, and thus such freight systems may still be used under proper circumstances.

Some arguments may be made that no discrimination whatsoever exists in the case of a flat delivered-price system in view of the uniformity of price, and apparently these arguments would apply in the zone situation only if the buyers in one zone were not in competition with the buyers in another zone, or if the difference in zone price is a function of, or proportional to, the actual freight rate.<sup>86</sup>

The legislative history of the Robinson-Patman Act and the proviso apparently condoning the meeting of a price of a competitor will probably be sufficient to justify freight-destination price systems under the Act. It must be remembered, also, that the delivered-price and analogous problems do not arise in any form where "competition", as defined in the Act, is not affected.

### Before the Trade Commission

In 1924, the Federal Trade Commission ordered the United States Steel Corporation<sup>87</sup> and others to cease and desist from selling its rolled steel products at a Pittsburgh price plus freight from Pittsburgh, on the ground that this practice constituted a violation of Section 2 of the Clayton Act, and that it was an "unfair method of competition" under Section 5 of the Federal Trade Commission Act.<sup>88</sup> The reasoning of the Commission was that a manufacturer, by adopting such delivered-price policies, was "unfairly" discriminating among customers.<sup>89</sup> It was found as a fact that the discriminations under Pittsburgh-Plus were not made for any of the purposes permitted by the Clayton Act, and the Commission

specially stated that "The prices thus made were not and are not made in good faith to meet competition in different localities and communities".<sup>90</sup> It also found in reference to Pittsburgh-Plus prices that "Pittsburgh-Plus adds millions of dollars each year to the price paid by steel users outside of Pittsburgh, which of course, must be eventually paid by the public."<sup>91</sup>

Commissioner Gaskill wrote a vigorous memorandum of dissent in this action, in which he found no legal basis for the cease and desist order. He stated that he felt that the question was one of legislative correction,<sup>92</sup> and that the Federal Trade Commission was going beyond the jurisdiction granted to it by Congress. The dissent is also based on the theory that the Federal Trade Commission Act does not establish a standard of absolute freedom of competition, but allows the observance of sound economic principles.<sup>93</sup>

The respondents never attacked the validity of the Commission's cease and desist order, but issued an announcement that, without conceding the validity of the order, they had determined to conform thereto in so far as practicable. As a matter of fact even before the order was issued the United States Steel Corporation had found it inadvisable to adhere strictly to the Pittsburgh basing-point system. Birmingham, Alabama, and Chicago were added as basing-points. Additional basing-points for different steel and iron products were added, so that Cleveland, Worcester (Mass.) and Duluth were added for wire products. Steel tubes had basing-points at Pittsburgh, Lorain and Youngstown, Ohio, Wheeling, W. Va., and Chicago.

Although products were no longer quoted solely on a Pittsburgh base, it appears that the delivered price generally quoted was in fact equivalent to the old Pittsburgh-Plus price. Thus, while the mechanics of Pittsburgh-Plus were generally modified, prices persisted at levels progressively higher as the distance from Pittsburgh increased, and this although steel costs at both Birmingham, Ala., and Gary, Ind., were considerably below costs at Pittsburgh.

It is rather difficult to understand why the Commission has allowed the steel industry to continue such practices unmolested after its entry of the cease and desist order. It has been well aware of

<sup>85</sup> 49 STAT. 1526, 15 U. S. C. A. § 13 (a) (Supp. 1936).

<sup>86</sup> See Kavits, *Analysis of New Section 2 of Clayton Act made for National Paper Trade Ass'n, Inc.*, N. Y. Times, July 20, 1936, p. 22 col. 1.

<sup>87</sup> Matter of United States Steel Corp., 8 FED. TRADE COMM. DEC. (1924) 1.

<sup>88</sup> *Supra* note 56.

<sup>89</sup> In Matter of the United States Steel Corp., 8 FED. TRADE COMM. DEC. (1934) 1, 20, the Findings of Fact, in par. 6 (h), state this discrimination in these words: "The respondents, in selling their respective steel products from their mills outside of Pittsburgh at Pittsburgh-Plus prices discriminate among the customers of the same mill. In the case of two steel users buying steel from the same mill outside of Pittsburgh, that steel user whose plant has a less freight rate from Pittsburgh secured a less price from the respondent than his competitor whose freight rate from Pittsburgh is greater. In other words, the actual freight rates from the producing mill to the customers' plants do not determine the difference between the delivered prices paid by customers buying steel from the same mill."

<sup>90</sup> *Id.* at 38.

<sup>91</sup> *Id.* at 35.

<sup>92</sup> "If the economists are right, the requirements of the situation will be met only by a legislative recognition of the necessity for a more exact statement of the scientific relation between business and economics and the declaration of that relation in the form of a law of general application." *Id.* at 65.

<sup>93</sup> *Id.* at 62.

the workings of the steel basing-point systems and has published numerous pamphlets concerning this subject.<sup>94</sup> It has issued four complaints against delivered-price practices in other industries. One complaint was dismissed,<sup>95</sup> a second was settled by a consent, cease and desist order,<sup>96</sup> and the other two are still pending.<sup>97</sup> The Commission has also considered a basing-point system in a case alleging a Sherman Act conspiracy.<sup>98</sup>

In connection with proceedings before the Federal Trade Commission it is well to remember that the jurisdiction of that body is not entirely limited to violations of the Sherman and Clayton Acts, provided the activities are "unfair methods of competition".<sup>99</sup> In the main, "unfair methods of competition" have been limited to embrace only violations of provisions of law or already established common law rights. The *Beech-Nut*<sup>100</sup> case, however, goes beyond these limits, but subsequent cases have not extended<sup>101</sup> it beyond the original scope of the de-

cision, which held that complex systems for checking upon a failure to sell at suggested resale prices may go so far beyond a simple refusal to sell to price cutters that they are illegal, and that such individual policing or check-up systems are illegal. In spite of the lack of authority on this situation, it is believed that the courts might well permit the Commission to extend its activities to include prosecutions of individual discriminations which, though legal under the Clayton Act, nevertheless amount to unfair methods of competition and clearly evade the intent of the Anti-Trust Laws though not contrary to their specific provisions.

The Federal Trade Commission has expressed itself against basing-point and delivered-price systems on numerous occasions.<sup>102</sup> Their expert economic witnesses are rabid against all freighting systems which are not based on the actual freight rate from the place of manufacture to the point of consumption.<sup>103</sup> The Commission is probably correct in believing that a delivered-price policy results in an economic discrimination among customers. Thus some customers must purchase freight that they do not use or else they must pay a higher initial cost, depending upon from which angle the process is viewed. This discrimination, of course, becomes less and less as charges made for freight approach actual freight costs.

Even assuming that such freight systems were "unfair methods of competition",<sup>104</sup> by virtue of *Federal Trade Commission v. Raladam*<sup>105</sup> the Commission can not proceed against any freight practices as unfair methods of competition unless proof can be given that such practice appears to threaten substantial injury to, or in fact does lessen, competition. The *Raladam* case would be a complete defense if there were no competitors, and it seems to offer a complete defense if all the companies in an industry voluntarily follow the same practice; no attack is open unless it is proved that (1) there is an agreement, or (2) that there is a discrimination which tends to create a monopoly.

Under most circumstances it would be difficult to make out a case where delivered-price practices were "unfair methods of competition" unless they were clearly in no way reasonably related to freight costs and were not necessary to the meeting of competition, or unless they had in fact resulted and were resulting in a lessening of competition.

<sup>94</sup> Fed. Trade Comm. reports listed *supra* note 8. See also Fed. Trade Comm., Study of the Zone-Price Formula in the Range Boiler Industry, 1936.

<sup>95</sup> Fed. Trade Comm. complaint Docket No. 1461, which charged that sales of range boilers were based "on a delivered and fixed lump sum basis . . ." was dismissed without reason given, May 1, 1931.

<sup>96</sup> In Matter of Nat'l Electrical Mfrs. Ass'n, Docket No. 2565, the original complaint was issued September 26, 1935, the amended complaint on November 16, 1935, while the consent cease and desist order was entered December 29, 1936. Both complaints charged an agreement to use a delivered-price system. The findings of fact restated the allegations of the original and amended complaints with reference to delivered price, and the cease and desist order provided:

"It is further ORDERED that said respondent corporations . . . cease and desist . . . from doing and performing, by agreement, combination or conspiracy . . . the following acts and things:

(7) Refusing to sell any buyer who so elects at a price calculated f. o. b. point or place from which the goods purchased are actually shipped; (8) Requiring that customers purchase only on a delivered price basis, whether in the form of a single delivered price throughout the United States or throughout each of any number of price zones; . . ."

<sup>97</sup> Matter of Cast Iron Pipe Ass'n, cited and discussed *supra* note 83, and Matter of the Water Works Valve and Hydrant Group, Fed. Trade Comm. Docket No. 2958 (complaint issued October 29, 1936, and amended November 16, 1936). The latter case alleges that the respondents have " . . . agreed to divide . . . and have divided the United States into zones, in which zones the said respondents have by agreement fixed and maintained . . . enhanced uniform delivered prices . . ." Most of the respondents filed an answer on February 1, 1937, consenting to the entry of an order to cease and desist from any such agreement.

<sup>98</sup> In Matter of North Dakota Wholesale Grocers Ass'n, 9 Fed. Trade Comm. Dec. (1925) 266, the complaint charged the association with entering into an agreement or understanding to fix uniform prices at which its members were to sell their products. The complaint itself did not charge an agreement to use a basing-point or freight-zone system. The Commission found, however, that the respondents had entered into an agreement to fix and maintain prices, and that pursuant to said conspiracy they had agreed that sugar should be sold upon a common basing-point system. Price cards showing the agreed prices and freight books showing the freight to be added to the base price from the common basing-point were distributed among the respondents.

The Commission entered an order compelling the respondents to cease and desist from agreeing upon and maintaining uniform selling prices. The order did not specifically direct the respondents to cease and desist from using a basing-point system. The reason, perhaps, for not having done so probably is that the Commission felt that in the absence of an agreement to fix and maintain prices the basing-point system would cease to exist.

<sup>99</sup> *Federal Trade Comm. v. Beechnut Packing Co.*, 257 U. S. 441 (1922).

<sup>100</sup> *Ibid.*

<sup>101</sup> The only apparent attempt to extend the *Beechnut* case to other factual situations was defeated in *Federal Trade Comm. v. Western Meat Co.*, 272 U. S. 354 (1926), on the very special grounds that the Commission was specifically authorized to enforce Section 7 of the Clayton Act and hence could not go beyond the scope of the remedies therein provided for.

<sup>102</sup> *Supra* note 8.

<sup>103</sup> FETTER, *op. cit.* *supra* note 11.

<sup>104</sup> *Federal Trade Commission Act*, § 5, 38 STAT. 719 (1914), 15 U. S. C. A. § 45 (1927).

<sup>105</sup> 283 U. S. 643 (1931).



## Conclusion

The *Maple Flooring* and *Cement* cases were treated at length because they represent the only times that freight destination questions have ever been seriously discussed by the courts. In the future the courts might hold other freight destination systems unreasonable discriminations and make a distinction between the basing-point systems used in the maple flooring and cement industries and those developed in other industries. From the Supreme Court's opinions in those two cases it is apparent that the basing-points were used for the purpose of facilitating the calculation of delivered prices and that they enabled manufacturers to know what mill-base price they would have to set in order to quote a competitive price at any given destination.

Whenever the points of manufacture are closely concentrated and the locations of basing-points are roughly central, and no single manufacturer is placed in a particularly advantageous competitive position, then the discrimination involved does not tend substantially to lessen competition, restrain trade, or create a monopoly. In addition, when the points of production are comparatively close to the points of actual shipment there is no systematic discrimination between customers. Since the chief consideration in both these cases was the legality of open price trade associations, it has been contended that the Court's apparent conclusion that there was no substantial discrimination is an ill-founded dictum based on a superficial analysis of the nature and possible effect of basing-point systems. Granted, however, that such policies are discriminatory, it does not follow that they can ipso facto be ruled out. It would have to be a discrimination so as "substantially to lessen competition or tend to create a monopoly".<sup>106</sup> The purpose and effect of the freight destination policies in most industries does not seem to have resulted in monopoly, though it would seem that a complete uniformity in freight policy would eliminate geographical location of factories as an element in the competition between manufacturers. The Supreme Court has held that not all price discriminations are illegal.<sup>107</sup> Such cases suggest the possibility of sustaining a freight

destination policy, although discriminatory in character, on the ground that it was a necessary device in order to meet competition. A seller could probably also justify his practices if he followed those of the industry leader, since the mere fact of following the leader does not make the practice an illegal restraint of trade.<sup>108</sup> If, however, an actual agreement was proved among the sellers, there could be no justification of the practice on such grounds, or on any grounds except as indicated above in the discussion of the Sherman Act.

It is impossible even to outline the many factual variations which bear on the reasonableness of freight destination systems. Since no authority exists on the validity of one system as compared with another, it may be safely assumed that the courts will examine with diligence the reasonableness of any freight destination systems which come before them.

The difficulty of predicting the effect of the Robinson-Patman Act on this problem should be apparent. It should first be realized that the definition of "price" in the original Patman and Utterback Bills were not designed to eliminate the discriminations covered by the original Clayton Act. They were designed primarily to equalize the net profit or net revenue which a seller actually realizes from his various customers. Before a court should construe the Robinson-Patman Act to reach this result it should certainly re-examine the basis of the Act and also consider the possible effects of an interpretation which condemns freight price systems. If such an interpretation were made, it would result in many instances in destroying the equality of price to which groups of customers have been accustomed. The gain of one customer would certainly be the loss of another. It is unsound to examine delivered-price practices entirely from the point of view of whether or not one system or the other would have been preferable from the beginning; the fact must be faced that many businesses have been built up upon the principle of some freight destination system, and to disturb it now would risk such a vast dislocation of the normal channels of seller and customer that any predicted countervailing advantages should be closely scrutinized.

The answer to the question of whether there is substantial or unfair discrimination among compet-

<sup>106</sup> Clayton Act, § 2, 38 STAT. 730 (1914), 15 U. S. C. A. § 13 (1927).

<sup>107</sup> *Fairmount Creamery Co. v. Minnesota*, 274 U. S. 1 (1927), which held that state anti-trust legislation could not forbid price discrimination made in good faith to meet competition, and that a purchaser could not be prohibited from paying a lower price in communities where competition did not exist and higher prices where it existed. Cf. *Central Lumber Co. v. South Dakota*, 226 U. S. 157 (1912), where it was held that a state could regulate discriminating sales made for the purpose of destroying competition.

<sup>108</sup> *United States v. International Harvester Co.*, 274 U. S. 693 (1929).

(Continued on page 35)

# What is the Future of Private Enterprise?<sup>1</sup>

By DONALD D. CONN

Executive Vice-President  
Transportation Association of America

**A**S WE gather here just prior to the anniversary of the birth of American Liberty, it is appropriate that we solemnly consider the true meaning of private enterprise in the construction of the economic and social life of this country. That phrase has been used too often without an appreciation of what it really stands for.

## The Significance of Private Enterprise

The first thing I want to do is to assert vigorously that private enterprise in the United States has not broken down. It has not collapsed, failed, betrayed the American people, or been guilty of any of the other numerous crimes that have been assessed against it. It may have been weakened slightly from within and considerably from without, but the value of the idea is in no way diminished so far as it represents a basic principle of the American system.

Private enterprise has a peculiar and distinctive significance to the United States. The philosophy underlying our institutions begins with it. Some very keen minds explored the experience of the human race for several thousand years and brought forth a plan, which organized and concentrated more wisdom than anything of similar character in history.

In contemplating forces which might order the political affairs of man, the choice may be narrowed down to two. On the one hand, we have the doctrine of the supremacy of the State. On the other, we have the doctrine of the supremacy of the Individual. Despite the fact that the former fell chiefly of its own weight several hundred years ago and only now is being revived; and the doctrine of the supremacy of the individual only became a speck on the horizon in the seventeenth century, we find that, in effect, the two are again at grips with each other. The world is asked once more to make its choice. Periodically, similar principles have been in conflict since tribal days. In modern times this

♦ Fundamental in the conception of the American Idea is the private ownership and management of property. Is this principle jeopardized in the light of today's conditions? And, if so, how can it adequately be protected? These are questions of vital significance to all walks of life in our entire nation. The following excellent discussion by Mr. Conn comprehensively sets forth the issues involved and suggests a means for preserving this American philosophy.

conflict is often referred to as centralization versus decentralization.

In the light of history, the choice between the doctrine of the supremacy of the State, and that of the supremacy of the individual, was regarded as so important that the men who designed the American system went to the unusual lengths of laying out their plan for decentralization of Government in contract form—the Constitution. They knew that the greatest guarantee of individual liberty and freedom lay in the direction of private enterprise and endeavored to move further than ever before to safeguard it.

## The American Idea

Under it, the institutions of our society are the family, the church, science, universal education, the press, the State, and private ownership and management of property. Some of these are specifically mentioned in the primary instrument of our system, others are implied in the plan as expressed, and still others have since developed, and fit in naturally with the original conception.

The economic and social structure underlying the American idea rests upon the following primary principles:

1. Equality of opportunity based on recognition of ability as the primary criterion of worth, and the rejection of any measure implying or leading to class distinction.
2. Leadership, typifying disinterested trusteeship, of a character which promises a just balance between consideration of the individual good, and the common good.
3. Recognition of the essential mutuality of interest as between leaders and followers in all

<sup>1</sup> Presented before the Business Interests of Chicago at the Union League Club, June 30, 1937.

organized activities; preservation of the opportunity for full cooperation between them in the domain of private enterprise; and resistance to all doctrines and forces implying or inducing conflict.

4. Private ownership and management of the instruments of production and distribution.
5. Scrupulous separation of responsibility for the leadership and administration of politics and government on the one hand,—and economics, business or private enterprise on the other.
6. A democratic principle as the basis of the social structure, safeguarded by a dual system of Government and the separation of powers within the governmental structure.
7. Complete freedom of opportunity for science, education, and the press, to develop and function in harmony with the most enlightened conception of purpose that may be possible at any given time.
8. Complete separation of church and State; reliance upon religion in a secular sense as a moral discipline aiming to so prepare the individual as to facilitate the ordering of relations between individuals and between individuals and groups on the basis of self-restraint.

I submit this all too brief outline to suggest that a monumental conception was put forward by the men who designed our system; that its possibilities have not even been explored and that it still presents the greatest challenge to man throughout history for the advancement and perpetuation of his own well being. That great English Statesman, Gladstone, summarized the American idea by saying—"The American Constitution is, so far as I can see, the most wonderful work ever struck off at a given time by the brain and purpose of man."

### Threats to the American Idea

First, there is the tinkering with the idea itself which tends to weaken it and induce collapse. In this category would fall the disregard of the line between the functions of public and private agencies, the excessive use of the powers of Government and law for private ends, the direct primary, over-regulation of transportation, unnecessary regulation of private industry, the rise of predatory political machines, and, particularly, the absence of an effective and organized opinion that wills to the contrary.

Second, various outside forces which I believe represent the greatest threat of all. These, perhaps, may be best characterized as illuminism, socialism, Fabian socialism and communism. It seems proper to say that not one of these "isms" has a rational justification. In a sense it may be said that they are the primary causes of the world-wide unrest and the war on economics. Almost everywhere it appears that politicians, demagogues, and other self-appointed saviors are leading an assault on mathematics. Much of what they say and do, implies that they would repeal plain arithmetic. At the present time, at least, the "isms" represent the most serious single threat to the American idea and therefore are the sworn enemies of private enterprise as we have known it.

Third, the policies of organized business or private enterprise operate to induce the collapse of the American idea. These produce the weakness of the soil in which the seeds of disorder are planted and take root. Although many could be enumerated, it probably is sufficient for the purposes of the subject today to point out that the chief weakness is the lack of understanding of private enterprise, and a distinct lack of initiative in defending, as well as improving, the application of the idea to modern conditions. It is suffice to say only that which honest leadership will admit, that business as we understand the term, has permitted our social and economic structure to drift into its present state of uncertainty. Too many business men have often influenced Government to enter the field of private management and then condemned it for doing so. Too many have sought to use the instrument of Government as a substitute for their own inability to develop their own formulas of progress. If we wish to keep Government in its position under the Constitution, let us not grant an excuse for an invasion in the field of private enterprise and the ill-advised use of Governmental power in that direction. We are too apt to deplore the order of things, facing our problems only as emergencies arise. We have done little, if anything, since the World War to strengthen the foundation upon which this great American idea must rest. A renewed faith in our fundamental system and revived courage to protect its principles are prime requisites at the present time.

### Transportation, the Keystone

The most outstanding single departure from the American idea is found in our treatment of trans-



portation. At the beginning, private enterprise established and developed the American transportation system. For fifty years this development proceeded apace and was largely free from outside restraint or control. Then we embarked upon what was described as regulation and for the past fifty years most of what we have been doing has been done in the name of that term. Since 1887 we have failed in that field to follow the wisdom of the designers of the American idea. We have observed that the exercise of the so-called fostering care of the State originally invoked in the name of regulation, has tended increasingly away from regulation toward full control. There are only two more steps. The next is management; the last is ownership. Then would come the deluge. Experience in many countries indicates that it would be a deluge of red ink. When it mounted so high as to threaten the Treasury of the State, the loss would be written off, defrayed by the taxpayers, all forms of transportation set up again under private enterprise, and the process would begin all over. Such are the facts and the lessons of world experience.

Government ownership of any one form of transportation inevitably leads to Government ownership of all forms. In turn, this means Government ownership or complete regimentation of our major industry. Such a conclusion is inescapable under our form of Government.

I do not imply that regulation of competition, services, and rates, does not have its value and is not in the public interest within fixed limits. However, we have long since passed the stage of sensible and necessary regulation and we have now entered the stage of absolute control. Moreover, the manner in which this control, by exercise of the sovereign powers of the State has been applied, automatically induces the next stage, which is management by the State. We need only review the activities of Congress, especially in recent years,—and analyze the underlying reasons for the many political investigations and legislative proposals, to realize that the trend toward absolute control is a definite part of a socialistic program. This continuing process leads to Government ownership.

The "front line trench" of private enterprise is transportation. Between 15 per cent and 20 per cent of the wealth of the nation is invested in transportation and 30 per cent of our buying power. In a nation as far-flung as the United States it is the keystone in the arch of private enterprise.

With one hundred years of experience in the field of transportation, we ought to possess the foundational knowledge of what should or should not be done with this major problem, and not permit this vast industry to drift into Government ownership through public default. Surely it is possible to assess this vast body of experience and produce a distillation that will reveal what really is best in the public interest.

### The Transportation Association

The movement to which we have dedicated our efforts in the Transportation Association was conceived as a practical and fundamental approach in bringing about a renewed appreciation of our basic principle of private enterprise,—applicable to every form of business. To develop the interest of a broad cross section of industry and individuals such a program must be constructed around a problem in which all, alike, have a common concern. Transportation and our public services represent those fields in which private enterprise is most in jeopardy.

Socialism or the communistic state can only become entrenched in this country when transportation, communication, and public services fail, as profitable private enterprises. We ask, therefore, that agriculture, industry, finance and transportation recognize the common and related interest which exists in the prosecution of a nation-wide program to keep these industries in private hands; and, in doing so, to educate the rank and file of our people to appreciate the heritage which is theirs under the American system of Government, properly administered.

The Association is a non-partisan, non-profit organization dedicated to research, analysis, and public education on public service and related problems, and to the determination of a sound public transportation policy for the future. It seeks to substitute economics for ill-conceived political treatment of the entire question.

The activities of the Association are being carried on through three major divisions: Research, Education and Organization.

### Research

After careful analysis and with the assistance of various groups representing the public, shippers, finance, and transportation agencies, the following program is being supervised by the Association's "Committee on Transportation Policy" consisting of

nine outstanding executives, two representing farm cooperatives, two representing industry, two representing commercial banking institutions, two from insurance companies and one from transportation.

First, the determination of the causes and results of Municipal, State, and Federal ownership of all classes of utilities, including transportation agencies, in the United States and foreign countries. It is obvious that before intelligent consideration can be given to the present trend in America we must know the reasons and the results of governmental experiments in other lands, especially Canada.

Second, there is a definite relationship between production, marketing practices, labor relations and transportation. Two of the research brochures which you found at your tables this noon—one dealing with grain production, the other with the proposed Federal train limit bill—are particularly significant and emphasize the inter-dependence of all phases of our economy. The train limit proposal now on the Senate calendar represents an artificial effort to “make work” without a single element of economic justification. A study of the grain report shows an analysis of production covering a period of 26 years from 1909 to 1935. It shows that during the 13 years of highest yield nearly 14,000,000,000 bushels more of wheat, corn and oats was actually produced than during the 13 years of smallest yield. It also shows that the total farm value was \$12,000,000,000 greater for the aggregate of the 13 years of largest production. But that is only part of the story. The actual price per bushel on the farm was higher for the 13 years of largest yield. Nearly 14,000,000,000 bushels means, during the 13-year period, the loss of over 500,000 carloads of grain per year, assuming it was all transported on the rails. America cannot prosper except as it makes jobs for its people by encouraging, and not restricting production. The doctrine of scarcity only aggravates the evils of mal-distribution of wealth. Carried to its logical conclusion, it will make us a nation of paupers instead of the wealthiest nation on earth. 500,000 additional cars of grain per annum would, in itself, make more jobs than any train limit law or other “make work” measure, yet suggested.

In traveling over two hundred thousand miles in the past two years and discussing our problems with all classes of people, including individual farmers and labor leaders as well, I find that by far the majority of our citizens are just as solid today in their belief in private enterprise as they ever were. Radical leadership is responsible for our pres-

ent troubles and not the farmer nor the average laboring man whether or not he belongs to a Union. Labor is the human energy applied to work done today. Capital is Labor's Silent Partner and represents the unspent reward of human energy applied to the work of yesterday. Capital has been accumulated in little pools of surplus, which in some cases finally flowed together into great streams upon which the labor of today is borne along. For the labor of today to deal otherwise than fairly and equitably with the labor of yesterday leads ultimately to disaster for every one. It is no longer safe for either capital or labor to assume the position “of getting more while the getting is good” or for either to use or misuse the power of Government against the other.

So the problem of transportation, the relations between capital and labor,—the economics of production and distribution, are all inter-related in their effect one upon the other. Excesses in any direction are contrary to the American idea. Each rigidity placed in the path of free exchange only builds surpluses, whether of farm products, manufactured articles, or of labor. Therefore, the second phase of the research program is appropriately dedicated to the determination of the effect of these fundamental proposals which relate to or control the production and marketing of commodities and the employment of labor.

Third, a comprehensive study is being undertaken of existing and proposed State and Federal transportation laws and the administration thereof to ascertain the necessity therefor from the standpoint of the entire public interest,—and the effect upon private and competitive operation.

Fourth, the question is paramount as to what can be done to permanently re-establish transportation credit on a comparable basis to that of other important industries. This subject involves questions of capitalization, consolidation, coordination, relations within and among the various forms of transportation, and the determination and adoption of a sound national transport policy in the general public interest. This means the enactment of a new Federal Transportation Act with correlated legislation in the several States.

## Education

The Educational Division has been subdivided into three sections of activity: (a) relations to the public press; (b) to schools and colleges; and (c) to the Association's permanent Committees in each State.

(a) Since November, 1935, the program of the Association has been approved editorially by over 180 leading newspapers in this country.

(b) Constructive assistance and advice is being offered in preparation of transportation courses in public schools and universities and trained economists will be available constantly for lectures, free of charge, to our educational institutions upon their request. Since its organization, the Association's publications have been regularly furnished to thirty-six universities or colleges. The spread of communism has made rapid gains because of the exploitation of our youth and here is a field in which to construct a bulwark of defense for, and appreciation of, what the American idea really means to the future of this country.

(c) It is recognized that much valuable research has been developed upon many economic problems, including transportation, taxation and the theory of Governmental relations to business generally. Notwithstanding these efforts, the public, as a whole, is too easily influenced by temporary political doctrines and too little concerned with sound principle. It is our view that this attitude is primarily due to the lack of individual understanding and responsibility. As industry expanded and population increased,—as those from other lands adopted this country for their own,—we have failed, as a people, to develop a conscious recognition among our citizens of the fundamentals of our social and economic system. Transportation, perhaps next to finance, is the major element in our national economy. It would be the grossest exaggeration to say that 1 per cent of our population knew anything about this problem. They are content to leave the entire question to their elected representatives regardless of the outcome, resulting in our antiquated policy of "hit and miss" legislation affecting this industry. Therefore, an entirely new plan for bringing about a better public conception of these major questions has been developed along the following lines: The country has been divided into fifteen territories, known as Regional Chapters. Within each district of the several States a permanent "Committee of 50" composed of farm and business leaders, together with newspaper editors and representatives of civic organizations, is being established. Such an "organized audience" supplements the established channels of public relations and under present conditions is a most necessary contribution to informed opinion and intelligent consideration of major issues. Around these Committees

it is our intention to build a broad and permanent program in support of the principle of private enterprise as applied to every business institution.

The Association has been endorsed by leading trade groups in the United States, by farm organizations, and by business executives in practically every phase of industry.

### Organization

The Association was sponsored by eight men, none of whom were directly affiliated with the transportation industry, but who were deeply concerned with the principles involved in the Association's objectives. Of the forty-eight Directors provided for, forty-one have thus far been chosen. The membership of the Board is spaced between agriculture, industry, finance and transportation. Fifteen of the Directors serve as an Executive Committee, with these same major interests equally represented. The daily conduct of the Association is supervised by a Management Committee composed of the Chairman of the Board, Chairman of the Executive Committee, the President and two Vice-Presidents. The Association now enjoys membership in every State of the Union, in Canada, Alaska, Hawaiian Islands and in England. In addition to the memberships of thousands of individuals, over 800 firms, partnerships or persons engaged in agriculture, industry, finance and transportation have become Sustaining Members. Our aim is to enlist not less than ten thousand corporations and to build our direct contacts to over a million individuals.

That the financial burden of membership may not preclude participation by even the smallest business, the formula for dues has been adjusted on a very modest basis. That there be no just claim of domination by any group, a maximum subscription of \$1,500 annually (except from Trade Associations) is provided for;—each partnership or corporation receiving one vote regardless of the size of the subscription. It is the aim of the Association to keep its structure as completely public as it is humanly possible to do, and to avoid partiality in the conduct of its activities. The farmer, business enterprise, financial institution and transport agency are asked to participate with that understanding.

Established without underwriting from any source and therefore owing no allegiance or obligation to any self-interested group, I present to you the first and only "vertical union" of all forms of American business.



## The Challenge

In conclusion, the American idea as expressed through our Constitution, does not provide for a Government by classes. Government violates that Constitution when it uses or misuses its power to further the interest of one class as against any other. In its Report of 1921, the Joint Commission on Agricultural Inquiry of the United States Congress said "it is not the function of Government to enter the field of private enterprise wherever it can, but only wherever it ought, to protect the public interest."

Whether we like to contemplate it or not, the fact remains that socialism has obtained a real and menacing foothold in this country. The question is whether our business leadership will recognize the challenge. It is not only the privilege but rather the duty of every leader of a business who understands the disasters and pitfalls of communism or dictatorship to enlighten, not only his business associates and employees, but also to interest himself with the rank and file of our citizens in his own community,—allotting some time out of his busy day to inform those who are seeking leadership or who lack the time to acquaint themselves with these fundamental issues. The very forces of socialism so obviously, yet so subtly at work, prey upon the ignorance of our people, painting a picture of heaven on earth, through the administration of communism or autocracy. It will no longer do to merely meet in convention and pass resolutions. The problem is one of fundamental education. We can no longer sit idly by and deplore circumstances if we are to avert the tragedies of other countries. Mass cooperation of all types of enterprise who believe in our Constitution and our form of Government represents a prime and immediate obligation of the business men of this country.

In behalf of the Board of Directors of this Association, I ask your cooperation, and your assistance with others, in the development of a great national movement which gives real promise of re-establishing an appreciation of the meaning of the American idea by making a practical demonstration that transportation can and must remain as a profitable private enterprise.

## States to Select Feeder Roads to be Improved with Federal Aid

STATE highway departments are to select a system of secondary or feeder roads for improvement with Federal assistance, according to a recent announcement by the Secretary of Agriculture. Rules and regulations were issued governing the expenditure of \$25,000,000 of Federal aid for secondary roads apportioned last December to the various States, Hawaii and Puerto Rico. The Federal funds are to be administered by the Bureau of Public Roads in cooperation with the State highway departments.

The Federal funds must be matched by equal amounts of State funds, and are for expenditure on secondary highway construction projects initiated by the various State highway departments and approved by the Secretary of Agriculture. The funds become available July 1 for payment to the States for completed work and remain available for two years.

The regulations define secondary or feeder roads as including farm-to-market roads, mine-to-market roads, rural free delivery mail roads, public school bus routes, and other important secondary roads. To qualify for this assistance each State must select a system of important secondary highways not to exceed 10 per cent of its highway mileage. The selection of roads to be included in this secondary highway system, the regulations provide, must be based on facts obtained from a highway planning survey in each State, and the Federal funds for secondary highways can be expended only on this system.

## Basing Point and Freight-Price Systems

(Continued from page 29)

itors must rest in a large measure on the facts presented in a given case. It is safe to say, however, that the Supreme Court has dealt sympathetically with freight destination systems which were based on the stable custom of an industry and which appeared reasonable and justifiable on their facts. If the sole purpose of a freight destination system is artificially to extend the area in which a group of factories can profitably operate, the system is open to some criticism; but if its purpose is solely to meet competition in good faith, it is a reasonably justifiable business practice. The line between these two purposes is one which would be almost impossible to draw even in a concrete case.

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lines and Cranes*

The National Supply Co. of Delaware,  
Superior Engine Division,  
1401 Sheridan Ave., Springfield, Ohio  
*Diesel engine equipment*

Nordberg Mfg. Co.  
Milwaukee, Wis.  
*Cone Crushers, Vibrating Screens, Classi-  
fiers, Diesel Engines, Steam Engines,  
Compressors, Mine Hoists, Underground  
Shovels, Track Maintenance Tools*

Northern Blower Co.  
65th St. south of Denison, Cleveland, Ohio  
*Dust Collecting Systems, Fans—Exhaust  
and Blowers*

Northwest Engineering Co.  
28 E. Jackson Blvd., Chicago, Ill.

Pioneer Gravel Equipment Mfg. Co.  
1515 Central Ave., N. E., Minneapolis, Minn.  
*Jaw Crushers, Roll Crushers, Horizontal  
Gradation Screens, Inclined Vibrating  
Screens, Revolving Screens, Belt Convey-  
ors, Belt Conveyor Units, Quarry and  
Rock Plants*

Pit and Quarry Publications  
538 South Clark St., Chicago, Ill.  
*Pit and Quarry, Pit and Quarry Handbook,  
Pit and Quarry Directory*

Robins Conveying Belt Co.  
15 Park Row, New York City  
*Belt Conveyors, Bucket Elevators, Gyrex  
and Vibrex Screens, Feeders, Design and  
Construction of Complete Plants*

Rock Products  
205 West Wacker Drive, Chicago, Ill.

Simplicity Engineering Co.  
Durand, Mich.  
*Simplicity Gyrating Screen, Simplicity  
D'centegrator, Simplicity D'watering  
Wheel*

Taylor-Wharton Iron & Steel Co.  
High Bridge, N. J.  
*Manganese and other Special Alloy Steel  
Castings*

The Texas Co.  
135 E. 42nd St., New York City

The Thew Shovel Co.  
Lorain, Ohio  
*Power Shovels, Cranes, Crawler Cranes,  
Locomotive Cranes, Draglines. Diesel  
Electric, Gasoline. 3/8 to 2-1/2 cu. yd.  
capacities*

The Traylor Engineering & Mfg. Co.  
Allentown, Pa.  
*Stone Crushing, Gravel, Lime and Cement  
Machinery*

Troco Lubricating Co., Inc.  
2728-34 N. Salmon St., Philadelphia, Pa.  
*Troco Crusher Grease, Troco Safety Lubri-  
cants*

Trojan Powder Co.  
17 N. 7th St., Allentown, Pa.  
*Explosives and Blasting Supplies*

The W. S. Tyler Co.  
3615 Superior Ave., N. E., Cleveland, Ohio  
*Wire Screens, Screening Machinery, Scrub-  
bers, Testing Sieves and Dryers*

Warren Brothers Roads Co.  
P. O. Box 1869, Boston, Mass.

or  
38 Memorial Drive, Cambridge, Mass.  
*Complete plants and separate plant units  
for bituminizing all types of stone, sand  
and gravel aggregate paving mixtures*

Westinghouse Electric and Mfg. Co.  
East Pittsburgh, Pa.  
*Transformers, Switching Equipment, Loco-  
motives, AC and DC Motors and Control,  
MG Sets, Welding Equipment, Gear  
Motors*





## Announcement

### Twenty-First Annual Convention National Crushed Stone Association

Netherland Plaza Hotel ♦ Cincinnati, Ohio

JANUARY 24, 25 and 26, 1938

*In conjunction with which will be held*

**THE MANUFACTURERS' DIVISION EXPOSITION OF MACHINERY, EQUIPMENT, AND SUPPLIES**

**T**HE Annual Convention of the National Crushed Stone Association, during the years since its inception, has become recognized as an event of outstanding significance to crushed stone producers individually and to the industry as a whole.

It serves, as no other medium can, to develop, crystallize, and express industry opinion. It signifies solidarity of purpose and the ability of those engaged in the same line of activity to unite in the solution of common problems.

As individuals, producers will find much to reward them for a visit to Cincinnati next January: Speakers of outstanding reputation and experience will discuss problems of timely interest, both technical and legislative; opportunity will be afforded for the mutually beneficial exchange of opinions with fellow-producers, to say nothing of the pleasure to be derived from renewing old acquaintanceships; the Manufacturers' Division Exposition will command studious attention for the helpful suggestions to be obtained from an inspection of the latest developments and improvements in machinery and equipment used in the crushed stone industry.

All crushed stone producers of the United States and Canada, whether or not members of the National Crushed Stone Association, are cordially invited to attend our Twenty-first Annual Convention. Make your plans now to be present at Cincinnati on January 24, 25 and 26, 1938.

1918 National Crushed Stone Association 1938  
1735 Fourteenth Street N. W. • • Washington, D. C.